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<400> 8

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cggcctattg tcaacctctt tgtttcccgg gaccttggtg gcagttctgc 150
agccacagag gcagtggcga ttttgacagc cacataccct gtgggtcaca 200
tgccatacgg ctggttgacg gaaatccgtg ctgtgtatcc tgctttcgac 250
aagaataacc ccagcaacaa actggtgagc acgagcaaca cagtcacggc 300
ggcccacatc aagaagttca ccttcgtctg catggctctg tcactcacgc 350
tctgtttcgt gatgtttgg acacccaacg tgtctgngaa aatcttgata 400
gacatcatcg gagtggactt tgcctttgca gaactctgtg ttgttccttt 450

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<211> 434
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<220>
<221> unsure
<222> 32, 54, 80, 111, 117, 122, 139, 193, 205, 221, 226, 228, 273,
      293, 296, 305, 336, 358, 361
<223> unknown base
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 gttttggaca cccaaagtgt ttgagaaaat tttgatagac atnatcggag 200
 tggantttgc ctttgcagaa ntttgngntg ttcctttgcg gattttctcc 250
 tttttcccag ttccagtcac agngagggcg catctcaccg ggnggntgat 300
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<211> 154
<212> DNA
<213> Homo sapiens
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<221> unsure
<222> 33, 49, 68, 83, 90, 98, 119
<223> unknown base
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 acactgaaga aaaccttngt ccttgccccc agntttgtgn tgcggatnat 100
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 agac 154
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<211> 24
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<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
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<400> 13
tcatctcttc cctctccc 18
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 ggcaaagtcc actccgatga tgtc 24
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<223> Synthetic oligonucleotide probe
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<210> 18
<211> 1901
<212> DNA
<213> Homo sapiens
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ctctgccccc tgcatcctgt gcagctgctg ccccgccagc cgcaactcca 150
ccgtgagccg cctcatcttc acgttcttcc tcttcctggg ggtgctggtg 200
tccatcatta tgctgagccc gggcgtggag agtcagctct acaagctgcc 250
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gtgggatgcc ccgagcattg tgggcctcat catcttcctc ctgtgcaccc 1050
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caqaccqaqq aqtqcccacc tatqctaqac qccacacagc agcagcagca 1150
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aaccgcgact tcagctgagg cagcctcaca gcctgccatc tggtgcctcc 1450
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caggetectg cagageeeca tececegee acacecacae ggtggagetg 1650
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tggtcacgtc ccccagggga ccctgccccc ttcctggact tcgtgcctta 1850
ctgagtctct aagacttttt ctaataaaca agccagtgcg tgtaaaaaaa 1900
a 1901
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<210> 19

<211> 457

<212> PRT

<213> Homo sapiens

<400> 19

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Cys Leu Cys Gly Ser Ala Pro Cys Ile Leu Cys Ser Cys Cys Pro 20 25 30

Ala Ser Arg Asn Ser Thr Val Ser Arg Leu Ile Phe Thr Phe Phe

Leu Phe Leu Gly Val Leu Val Ser Ile Ile Met Leu Ser Pro Gly 50 55 60

Val Glu Ser Gln Leu Tyr Lys Leu Pro Trp Val Cys Glu Glu Gly Ala Gly Ile Pro Thr Val Leu Gln Gly His Ile Asp Cys Gly Ser Leu Leu Gly Tyr Arg Ala Val Tyr Arg Met Cys Phe Ala Thr Ala Ala Phe Phe Phe Phe Phe Thr Leu Leu Met Leu Cys Val Ser 110 Ser Ser Arg Asp Pro Arg Ala Ala Ile Gln Asn Gly Phe Trp Phe 125 Phe Lys Phe Leu Ile Leu Val Gly Leu Thr Val Gly Ala Phe Tyr 150 140 Ile Pro Asp Gly Ser Phe Thr Asn Ile Trp Phe Tyr Phe Gly Val 160 Val Gly Ser Phe Leu Phe Ile Leu Ile Gln Leu Val Leu Leu Ile 180 Asp Phe Ala His Ser Trp Asn Gln Arg Trp Leu Gly Lys Ala Glu 190 Glu Cys Asp Ser Arg Ala Trp Tyr Ala Gly Leu Phe Phe Thr 210 Leu Leu Phe Tyr Leu Leu Ser Ile Ala Ala Val Ala Leu Met Phe Met Tyr Tyr Thr Glu Pro Ser Gly Cys His Glu Gly Lys Val Phe Ile Ser Leu Asn Leu Thr Phe Cys Val Cys Val Ser Ile Ala Ala Val Leu Pro Lys Val Gln Asp Ala Gln Pro Asn Ser Gly Leu Leu 265 Gln Ala Ser Val Ile Thr Leu Tyr Thr Met Phe Val Thr Trp Ser Ala Leu Ser Ser Ile Pro Glu Gln Lys Cys Asn Pro His Leu Pro 295 300 Thr Gln Leu Gly Asn Glu Thr Val Val Ala Gly Pro Glu Gly Tyr Glu Thr Gln Trp Trp Asp Ala Pro Ser Ile Val Gly Leu Ile Ile 330 Phe Leu Cys Thr Leu Phe Ile Ser Leu Arg Ser Ser Asp His 340 Arg Gln Val Asn Ser Leu Met Gln Thr Glu Glu Cys Pro Pro Met

<211> 18

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  caggaatgta gaaggcaccc acgg 24
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 <223> Synthetic oligonucleotide probe
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  tggcacagat cttcacccac acgg 24
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 <212> DNA
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 <223> Synthetic oligonucleotide probe
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 <211> 1351
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  cgcggcacgt ccgcgaggac ttgaagtcct gagcgctcaa gtttgtccgt 150
  aggtcgagag aaggccatgg aggtgccgcc accggcaccg cggagctttc 200
  tctgtagagc attgtgccta tttccccgag tctttgctgc cgaagctgtg 250
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actgccgatt cggaagtcct tgaggagcgt cagaagcggc ttccctacgt 300 cccagagece tattaccegg aatetggatg ggacegeete egggagetgt 350 ttggcaaaga tgaacagcag agaatttcaa aggaccttgc taatatctgt 400 aagacggcag ctacagcagg catcattggc tgggtgtatg ggggaatacc 450 agcttttatt catgctaaac aacaatacat tgagcagagc caggcagaaa 500 tttatcataa ccggtttgat gctgtgcaat ctgcacatcg tgctgccaca 550 cgaggettca ttegttatgg ctggegetgg ggttggagaa ctgeagtgtt 600 tqtqactata ttcaacacag tgaacactag tctgaatgta taccgaaata 650 aaqatqeett aaqeeatttt qtaattqeaq qaqetqteac gggaagtett 700 tttaggataa acgtaggcct gcgtggcctg gtggctggtg gcataattgg 750 agcettgetg ggcacteetg taggaggeet getgatggea tttcagaagt 800 acqctqqtqa qactqttcaq qaaaqaaaac aqaaqqatcq aaagqcactc 850 catgagctaa aactggaaga gtggaaaggc agactacaag ttactgagca 900 cctccctgag aaaattgaaa gtagtttacg ggaagatgaa cctgagaatg 950 atgctaagaa aattgaagca ctgctaaacc ttcctagaaa cccttcagta 1000 atagataaac aagacaagga ctgaaagtgc tctgaacttg aaactcactg 1050 gagagctgaa gggagctgcc atgtccgatg aatgccaaca gacaggccac 1100 tctttggtca gcctgctgac aaatttaagt gctggtacct gtggtggcag 1150 tggcttgctc ttgtcttttt cttttctttt taactaagaa tggggctgtt 1200 ttaatctatc aatatatgca tacatggata tatccaccca cctagatttt 1300 aagcagtaaa taaaacattt cgcaaaagat taaagttgaa ttttacagtt 1350 t 1351

<210> 28

<211> 285

<212> PRT

<213> Homo sapiens

<400> 28

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Leu Cys Leu Phe Pro Arg Val Phe Ala Ala Glu Ala Val Thr Ala 20 25 30

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Asp Ser Glu Val Leu Glu Glu Arg Gln Lys Arg Leu Pro Tyr Val
Pro Glu Pro Tyr Tyr Pro Glu Ser Gly Trp Asp Arg Leu Arg Glu
Leu Phe Gly Lys Asp Glu Gln Gln Arg Ile Ser Lys Asp Leu Ala
Asn Ile Cys Lys Thr Ala Ala Thr Ala Gly Ile Ile Gly Trp Val
Tyr Gly Gly Ile Pro Ala Phe Ile His Ala Lys Gln Gln Tyr Ile
Glu Gln Ser Gln Ala Glu Ile Tyr His Asn Arg Phe Asp Ala Val
                110
                                     115
Gln Ser Ala His Arg Ala Ala Thr Arg Gly Phe Ile Arg Tyr Gly
                125
Trp Arg Trp Gly Trp Arg Thr Ala Val Phe Val Thr Ile Phe Asn
                140
Thr Val Asn Thr Ser Leu Asn Val Tyr Arg Asn Lys Asp Ala Leu
                155
Ser His Phe Val Ile Ala Gly Ala Val Thr Gly Ser Leu Phe Arg
                170
Ile Asn Val Gly Leu Arg Gly Leu Val Ala Gly Gly Ile Ile Gly
Ala Leu Leu Gly Thr Pro Val Gly Gly Leu Leu Met Ala Phe Gln
                200
Lys Tyr Ala Gly Glu Thr Val Gln Glu Arg Lys Gln Lys Asp Arg
Lys Ala Leu His Glu Leu Lys Leu Glu Glu Trp Lys Gly Arg Leu
                230
Gln Val Thr Glu His Leu Pro Glu Lys Ile Glu Ser Ser Leu Arg
Glu Asp Glu Pro Glu Asn Asp Ala Lys Lys Ile Glu Ala Leu Leu
Asn Leu Pro Arg Asn Pro Ser Val Ile Asp Lys Gln Asp Lys Asp
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275

<210> 29

<211> 324

<212> DNA

<213> Homo sapiens

<400> 29

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<212> DNA

<213> Artificial Sequence

<223> Synthetic oligonucleotide probe

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 ctacagcagg catcattggc tgggtgtatg ggggaatacc agcttttatt 200
catgctaaac aacaatacat tgagcagagc caggcagaaa tttatcataa 250
coggtttgat gctgtgcaat ctgcacatcg tgctgccaca cgaggcttca 300
ttcqttcatq qctqqcqccq aacc 324
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<211> 377
<212> DNA
<213> Homo sapiens
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<221> unsure
<222> 262, 330, 371
<223> unknown base
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 cttgctgata tntgtaagac ggcagctaca gcaggcatca ttggctgggt 300
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 agagccaggc agaaatttat nataacc 377
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<213> Artificial Sequence
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27

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<223> Synthetic oligonucleotide probe
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ataacgaatg aagcctcgtg 20
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<400> 34
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<210> 35
<211> 1819
<212> DNA
<213> Homo sapiens
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<210> 30 <211> 204

<212> PRT

<213> Homo sapiens

<400> 36

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20 25 30

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Val Gly Val Val Ile Ala Val Gly Ile Phe Leu Phe Leu Ile Ala
Leu Val Gly Leu Ile Gly Ala Val Lys His His Gln Val Leu Leu
Phe Phe Tyr Met Ile Ile Leu Leu Leu Val Phe Ile Val Gln Phe
                                                         90
Ser Val Ser Cys Ala Cys Leu Ala Leu Asn Gln Glu Gln Gly
Gln Leu Leu Glu Val Gly Trp Asn Asn Thr Ala Ser Ala Arg Asn
                                                        120
                110
                                    115
Asp Ile Gln Arg Asn Leu Asn Cys Cys Gly Phe Arg Ser Val Asn
Pro Asn Asp Thr Cys Leu Ala Ser Cys Val Lys Ser Asp His Ser
                                                        150
Cys Ser Pro Cys Ala Pro Ile Ile Gly Glu Tyr Ala Gly Glu Val
                155
Leu Arg Phe Val Gly Gly Ile Gly Leu Phe Phe Ser Phe Thr Glu
                                                        180
                170
Ile Leu Gly Val Trp Leu Thr Tyr Arg Tyr Arg Asn Gln Lys Asp
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Pro Arg Ala Asn Pro Ser Ala Phe Leu 200

185

<210> 37

<211> 390

<212> DNA

<213> Homo sapiens

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<221> unsure

<222> 20, 35, 61, 83, 106, 130, 133, 187, 232, 260, 336

<223> unknown base

<400> 37

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190

195

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 gatcctgggt gtttggctga cctacagata caggaaccag 390
<210> 38
<211> 566
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 27
<223> unknown base
<400> 38
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 ttacaccaat gtattctaga atagttatgt cttaggaaat tgtggtttaa 150
 tttttgactt ttacaggtaa gtgcaaagga gaagtggttt catgaaatgt 200
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 taatttgaag totaaaagac tgcattttta aacaagttag tattaatgcg 350
 ttggcccacg tagcaaaaag atatttgatt atcttaaaaa ttgttaaata 400
 ccgttttcat gaaagttctc agtattgtaa cagcaacttg tcaaacctaa 450
 gcatatttga atatgatctc ccataatttg aaattgaaat cgtattgtgt 500
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 gttgtgcccc acttgc 566
<210> 39
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<213> Homo sapiens
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<221> unsure
<222> 84-85, 206
<223> unknown base
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 cttqtttaqc ccctgaaacc aggagcaaca gggnncagct tcctggaggt 100
 tggttggcaa caatcacggc caagtgactc cgcaaatgac atcccagaga 150
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aatcctaaac tgctgtgggt tccgaagtgt taacccaaat gacacctgtc 200

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ataggagaat atgc 264
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 Gln Ile Pro Thr Ala Ser Glu Asp His Ser Gly Ser Tyr Trp Cys
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 Glu Ala Ala Thr Glu Asp Asn Gln Val Trp Lys Gln Ser Pro Gln
 Leu Glu Ile Arg Val Gln Gly Ala Ser Ser Ser Ala Ala Pro Pro
 Thr Leu Asn Pro Ala Pro Gln Lys Ser Ala Ala Pro Gly Thr Ala
 Pro Glu Glu Ala Pro Gly Pro Leu Pro Pro Pro Pro Thr Pro Ser
 Ser Glu Asp Pro Gly Phe Ser Ser Pro Leu Gly Met Pro Asp Pro
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<211> 321

<212> PRT

<213> Homo sapiens

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Gly Pro Trp Lys Gly Asp Val Asn Leu Pro Cys Thr Tyr Asp Pro 35 40 45

Leu Gln Gly Tyr Thr Gln Val Leu Val Lys Trp Leu Val Gln Arg
50 55 60

Gly Ser Asp Pro Val Thr Ile Phe Leu Arg Asp Ser Ser Gly Asp
65 70 75

His Ile Gln Gln Ala Lys Tyr Gln Gly Arg Leu His Val Ser His 80 85 90

Lys Val Pro Gly Asp Val Ser Leu Gln Leu Ser Thr Leu Glu Met
95 100 105

Asp Asp Arg Ser His Tyr Thr Cys Glu Val Thr Trp Gln Thr Pro 110 115 120

Asp Gly Asn Gln Val Val Arg Asp Lys Ile Thr Glu Leu Arg Val 125 130 135

Gln Lys Leu Ser Val Ser Lys Pro Thr Val Thr Thr Gly Ser Gly 140 145 150

Tyr Gly Phe Thr Val Pro Gln Gly Met Arg Ile Ser Leu Gln Cys
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Gln Ala Arg Gly Ser Pro Pro Ile Ser Tyr Ile Trp Tyr Lys Gln 170 175 180

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 Val Lys Phe Val Val Lys Asp Ser Ser Lys Leu Leu Lys Thr Lys
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 Thr Glu Ala Pro Thr Thr Met Thr Tyr Pro Leu Lys Ala Thr Ser
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 Thr Val Lys Gln Ser Trp Asp Trp Thr Thr Asp Met Asp Gly Tyr
 Leu Gly Glu Thr Ser Ala Gly Pro Gly Lys Ser Leu Pro Val Phe
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- Val Thr Leu Pro Cys His His Gln Leu Gly Leu Pro Glu Lys Asp 35 40 45
- Thr Leu Asp Ile Glu Trp Leu Leu Thr Asp Asn Glu Gly Asn Gln
 50 55 60
- Lys Val Val Ile Thr Tyr Ser Ser Arg His Val Tyr Asn Asn Leu 65 70 75
- Thr Glu Glu Gln Lys Gly Arg Val Ala Phe Ala Ser Asn Phe Leu 80 85 90
- Ala Gly Asp Ala Ser Leu Gln Ile Glu Pro Leu Lys Pro Ser Asp 95 100 105
- Glu Gly Arg Tyr Thr Cys Lys Val Lys Asn Ser Gly Arg Tyr Val 110 115 120
- Trp Ser His Val Ile Leu Lys Val Leu Val Arg Pro Ser Lys Pro 125 130 135
- Lys Cys Glu Leu Glu Gly Glu Leu Thr Glu Gly Ser Asp Leu Thr
- Leu Gln Cys Glu Ser Ser Ser Gly Thr Glu Pro Ile Val Tyr Tyr 155 160 165
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<223> Synthetic oligonucleotide probe

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 Ile Arg Arg Lys Asp Lys Glu Arg Tyr Glu Glu Glu Glu Arg Pro
 Asn Glu Ile Arg Glu Asp Ala Glu Ala Pro Lys Ala Arg Leu Val
 Lys Pro Ser Ser Ser Ser Gly Ser Arg Ser Ser Arg Ser Gly
 Ser Ser Ser Thr Arg Ser Thr Ala Asn Ser Ala Ser Arg Ser Gln
 Arg Thr Leu Ser Thr Asp Ala Ala Pro Gln Pro Gly Leu Ala Thr
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<213> Homo sapiens

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Pro	Lys	Arg	Gly	His 335	Pro	Arg	Gln	Asn	Leu 340	His	Lys	His	Phe	Asp 345
Ile	Asn	Glu	His	Leu 350	Pro	Trp	Met	Ile	Val 355	Leu	Phe	Leu	Leu	Leu 360
Val	Leu	Val	Val	Ile 365	Val	Val	Cys	Ser	Ile 370	Arg	Lys	Ser	Ser	Arg 375
Thr	Leu	Lys	Lys	Gly 380	Pro	Arg	Gln	Asp	Pro 385	Ser	Ala	Ile	Val	Glu 390
Lys	Ala	Gly	Leu	Lys 395	Lys	Ser	Met	Thr	Pro 400	Thr	Gln	Asn	Arg	Glu 405
Lys	Trp	Ile	Tyr	Tyr 410	Cys	Asn	Gly	His	Gly 415	Ile	Asp	Ile	Leu	Lys 420
Leu	Val	Ala	Ala	Gln 425	Val	Gly	Ser	Gln	Trp 430	Lys	Asp	Ile	Tyr	Gln 435
Phe	Leu	Суз	Asn	Ala 440	Ser	Glu	Arg	Glu	Val 445	Ala	Ala	Phe	Ser	Asn 450
Gly	Tyr	Thr	Ala	Asp 455	His	Glu	Arg	Ala	Tyr 460	Ala	Ala	Leu	Gln	His 465
Trp	Thr	Ile	Arg	Gly 470	Pro	Glu	Ala	Ser	Leu 475	Ala	Gln	Leu	Ile	Ser 480
Ala	Leu	Arg	Gln	His 485	Arg	Arg	Asn	Asp	Val 490	Val	Glu	Lys	Ile	Arg 495
Gly	Leu	Met	Glu	Asp 500	Thr	Thr	Gln	Leu	Glu 505	Thr	Asp	Lys	Leu	Ala 510
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Pro	Asn	Ala		Leu 530	Glu	Asn	Ser	Ala	Leu 535	Leu	Thr	Val	Glu	Pro 540
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Pro	Leu	Leu	Arg	Cys 560	Asp	Ser	Thr	Ser	Ser 565	Gly	Ser	Ser	Ala	Leu 570
Ser	Arg	Asn	Gly	Ser 575	Phe	Ile	Thr	Lys	Glu 580	Lys	Lys	Asp	Thr	Val 585
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Asp	Asp	Met	Leu	His 605	Phe	Leu	Asn	Pro	Glu 610	Glu	Leu	Arg	Val	Ile 615

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<212> PRT

<213> Homo sapiens

<400> 69

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Leu Lys Phe Phe Pro Ile Ile Val Ile Gly Ile Ile Ala Leu Ile
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Leu Ala Leu Ala Ile Gly Leu Gly Ile His Phe Asp Cys Ser Gly 65 70 75

Lys Tyr Arg Cys Arg Ser Ser Phe Lys Cys Ile Glu Leu Ile Ala 80 85 90

Arg Cys Asp Gly Val Ser Asp Cys Lys Asp Gly Glu Asp Glu Tyr 95 100 105

Arg Cys Val Arg Val Gly Gly Gln Asn Ala Val Leu Gln Val Phe

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His	Tyr	Ala	Asn	Val 140	Ala	Cys	Ala	Gln	Leu 145	Gly	Phe	Pro	Ser	Tyr 150
Val	Seŗ	Ser	Asp	Asn 155	Leu	Arg	Val	Ser	Ser 160	Leu	Glu	Gly	Gln	Phe 165
Arg	Glu	Glu	Phe	Val 170	Ser	Ile	Asp	His	Leu 175	Leu	Pro	Asp	Asp	Lys 180
Val	Thr	Ala	Leu	His 185	His	Ser	Val	Tyr	Val 190	Arg	Glu	Gly	Cys	Ala 195
Ser	Gly	His	Val	Val 200	Thr	Leu	Gln	Cys	Thr 205	Ala	Cys	Gly	His	Arg 210
Arg	Gly	Tyr	Ser	Ser 215	Arg	Ile	Val	Gly	Gly 220	Asn	Met	Ser	Leu	Leu 225
Ser	Gln	Trp	Pro	Trp 230	Gln	Ala	Ser	Leu	Gln 235	Phe	Gln	Gly	Tyr	His 240
Leu	Суз	Gly	Gly	Ser 245	Val	Ile	Thr	Pro	Leu 250	Trp	Ile	Ile	Thr	Ala 255
Ala	His	Cys	Val	Tyr 260	Asp	Leu	Tyr	Leu	Pro 265	Lys	Ser	Trp	Thr	11e 270
Gln	Val	Gly	Leu	Val 275	Ser	Leu	Leu	Asp	Asn 280	Pro	Ala	Pro	Ser	His 285
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Leu	Gly	Asn	Asp	Ile 305	Ala	Leu	Met	Lys	Leu 310	Ala	Gly	Pro	Leu	Thr 315
Phe	Asn	Glu	Met	Ile 320	Gln	Pro	Val	Cys	Leu 325	Pro	Asn	Ser	Glu	Gl: 330
Asn	Phe	Pro	Asp	Gly 335	Lys	Val	Cys	Trp	Thr 340	Ser	Gly	Trp	Gly	Ala 345
Thr	Glu	Asp	Gly	Gly 350	Asp	Ala	Ser	Pro	Val 355	Leu	Asn	His	Ala	Ala 360
Val	Pro	Leu	Ile	Ser 365	Asn	Lys	Ile	Cys	Asn 370	His	Arg	Asp	Val	Tyr 375
				380			Met		385					390
Gly	Gly	Val	Asp	Ser 395	Cys	Gln	Gly	Asp	Ser 400	Gly	Gly	Pro	Leu	Val

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<211> 735

<212> PRT

<213> Homo sapiens

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Ser Val Arg Ser Gly Asp Leu Trp Ile Pro Val Lys Ser Phe Asp 50 55 60

Ser Lys Asn His Pro Glu Val Leu Asn Ile Arg Leu Gln Arg Glu
65 70 75

Ser Lys Glu Leu Ile Ile Asn Leu Glu Arg Asn Glu Gly Leu Ile 80 85 90

Ala Ser Ser Phe Thr Glu Thr His Tyr Leu Gln Asp Gly Thr Asp 95 100 105

Val Ser Leu Ala Arg Asn Tyr Thr Gly His Cys Tyr Tyr His Gly
110 115 120

His Val Arg Gly Tyr Ser Asp Ser Ala Val Ser Leu Ser Thr Cys 125 130 135

Ser Gly Leu Arg Gly Leu Ile Val Phe Glu Asn Glu Ser Tyr Val 140 145 150

Leu Glu Pro Met Lys Ser Ala Thr Asn Arg Tyr Lys Leu Phe Pro 155 160 165

Ala Lys Lys Leu Lys Ser Val Arg Gly Ser Cys Gly Ser His His
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Asn Thr Pro Asn Leu Ala Ala Lys Asn Val Phe Pro Pro Pro Ser 185 190 195

Gln Thr Trp Ala Arg Arg His Lys Arg Glu Thr Leu Lys Ala Thr 200 205 210

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Ile	Ala	Asn	His	Val 245	Asp	Lys	Phe	Tyr	Arg 250	Pro	Leu	Asn	Ile	Arg 255
Ile	Val	Leu	Val	Gly 260	Val	Glu	Val	Trp	Asn 265	Asp	Met	Asp	Lys	Cys 270
Ser	Val	Ser	Gln	Asp 275	Pro	Phe	Thr	Ser	Leu 280	His	Glu	Phe	Leu	Asp 285
Trp	Arg	Lys	Met	Lys 290	Leu	Leu	Pro	Arg	Lys 295	Ser	His	Asp	Asn	Ala 300
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Ser	Pro	His	Cys	Pro	Ala	Asn	Val	Tyr	Leu	His	Asp	Gly	His	Ser

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His Gl	u Gln	Gln	Cys 530	Val	Thr	Leu	Trp	Gly 535	Pro	Gly	Ala	Lys	Pro 540
Ala Pr	o Gly	Ile	Cys 545	Phe	Glu	Arg	Val	Asn 550	Ser	Ala	Gly	Asp	Pro 555
Tyr Gl	y Asn	Cys	Gly 560	Lys	Val	Ser	Lys	Ser 565	Ser	Phe	Ala	Lys	Cys 570
Glu Me	t Arg	Asp	Ala 575	Lys	Суз	Gly	Lys	Ile 580	Gln	Cys	Gln	Gly	Gly 585
Ala Se	r Arg	Pro	Val 590	Ile	Gly	Thr	Asn	Ala 595	Val	Ser	Ile	Glu	Thr 600
Asn Il	e Pro	Leu	Gln 605	Gln	Gly	Gly	Arg	Ile 610	Leu	Суз	Arg	Gly	Thr 615
His Va	l Tyr	Leu	Gly 620	Asp	Asp	Met	Pro	Asp 625	Pro	Gly	Leu	Val	Leu 630
Ala Gl	y Thr	Lys	Cys 635	Ala	Asp	Gly	Lys	Ile 640	Cys	Leu	Asn	Arg	Gln 645
Cys Gl	n Asn	Ile	Ser 650	Val	Phe	Gly	Val	His 655	Glu	Cys	Ala	Met	Gln 660
Cys Hi	s Gly	Arg	Gly 665	Val	Cys	Asn	Asn	Arg 670	Lys	Asn	Cys	His	Cys 675
Glu Al	a His	Trp	Ala 680	Pro	Pro	Phe	Cys	Asp 685	Lys	Phe	Gly	Phe	Gly 690
Gly Se	r Thr	Asp	Ser 695	Gly	Pro	Ile	Arg	Gln 700	Ala	Glu	Ala	Arg	Gln 705
Glu Al	a Ala	Glu	Ser 710	Asn	Arg	Glu	Arg	Gly 715	Gln	Gly	Gln	Glu	Pro 720
Val Gl	y Ser	Gln	Glu 725	His	Ala	Ser	Thr	Ala 730	Ser	Leu	Thr	Leu	Ile 735
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 aggactcaaa agtttggcct ttcactgagc ctccacagca gtgggggaga 300
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- <211> 67
- <212> PRT
- <213> Homo sapiens
- <400> 85

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Leu Ala Leu Leu Pro Val Gln Val Ser Ser Phe Val Pro Leu 20 25 30

Thr Ser Met Pro Glu Ala Thr Ala Ala Glu Thr Thr Lys Pro Ser 35 40 45

Asn Ser Ala Leu Gln Pro Thr Ala Gly Leu Leu Val Val Leu Leu 50 55 60

Ala Leu Leu His Leu Tyr His

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- <211> 23
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- <213> Artificial Sequence
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- <223> Synthetic oligonucleotide probe
- <400> 86

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- <210> 87
- <211> 29
- <212> DNA
- <213> Artificial Sequence
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- <223> Synthetic oligonucleotide probe
- <400> 87

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- <210> 88
- <211> 50
- <212> DNA
- <213> Artificial Sequence

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<211> 432

<212> PRT

<213> Homo sapiens

<400> 90

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Gly Gly Arg Trp Gly Ala Arg Ala Gln Glu Ala Ala Ala Ala Ala 35 40 45

Ala Asp Gly Pro Pro Ala Ala Asp Gly Glu Asp Gly Gln Asp Pro 50 55 60

His Ser Lys His Leu Tyr Thr Ala Asp Met Phe Thr His Gly Ile 65 70 75

Gln Ser Ala Ala His Phe Val Met Phe Phe Ala Pro Trp Cys Gly 80 85 90

His Cys Gln Arg Leu Gln Pro Thr Trp Asn Asp Leu Gly Asp Lys 95 100 105

Tyr Asn Ser Met Glu Asp Ala Lys Val Tyr Val Ala Lys Val Asp 110 115 120

Cys Thr Ala His Ser Asp Val Cys Ser Ala Gln Gly Val Arg Gly
125 130 135

Tyr Pro Thr Leu Lys Leu Phe Lys Pro Gly Gln Glu Ala Val Lys 140 145 150

Tyr Gln Gly Pro Arg Asp Phe Gln Thr Leu Glu Asn Trp Met Leu
155 160 165

Gln Thr Leu Asn Glu Glu Pro Val Thr Pro Glu Pro Glu Val Glu 170 175 180

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Lys Phe Phe Ala Pro Trp Cys Gly His Cys Lys Ala Leu Ala Pro
Thr Trp Glu Gln Leu Ala Leu Gly Leu Glu His Ser Glu Thr Val
Lys Ile Gly Lys Val Asp Cys Thr Gln His Tyr Glu Leu Cys Ser
Gly Asn Gln Val Arg Gly Tyr Pro Thr Leu Leu Trp Phe Arg Asp
Gly Lys Lys Val Asp Gln Tyr Lys Gly Lys Arg Asp Leu Glu Ser
Leu Arg Glu Tyr Val Glu Ser Gln Leu Gln Arg Thr Glu Thr Gly
Ala Thr Glu Thr Val Thr Pro Ser Glu Ala Pro Val Leu Ala Ala
Glu Pro Glu Ala Asp Lys Gly Thr Val Leu Ala Leu Thr Glu Asn
Asn Phe Asp Asp Thr Ile Ala Glu Gly Ile Thr Phe Ile Lys Phe
Tyr Ala Pro Trp Cys Gly His Cys Lys Thr Leu Ala Pro Thr Trp
Glu Glu Leu Ser Lys Lys Glu Phe Pro Gly Leu Ala Gly Val Lys
Ile Ala Glu Val Asp Cys Thr Ala Glu Arg Asn Ile Cys Ser Lys
Tyr Ser Val Arg Gly Tyr Pro Thr Leu Leu Leu Phe Arg Gly Gly
Lys Lys Val Ser Glu His Ser Gly Gly Arg Asp Leu Asp Ser Leu
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<211> 20

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<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

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ggtcaaaggg gatatatcgc cac 23
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<211> 49
<212> DNA
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<210> 96
<211> 1016
<212> DNA
<213> Homo sapiens
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 gtctggatat tgatagccgt cctaccgctg aagtctgtgc cacacacaca 150
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<213> Homo sapiens

<400> 97

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Glu Gly Lys His Gly Lys Val Gly Arg Met Gly Pro Lys Gly Ile
65 70 75

Lys Gly Glu Leu Gly Asp Met Gly Asp Gln Gly Asn Ile Gly Lys

80 85 90

Thr Gly Pro Ile Gly Lys Lys Gly Asp Lys Gly Glu Lys Gly Leu 95 100 105

Leu Gly Ile Pro Gly Glu Lys Gly Lys Ala Gly Thr Val Cys Asp

Cys Gly Arg Tyr Arg Lys Phe Val Gly Gln Leu Asp Ile Ser Ile 125 130 135

Ala Arg Leu Lys Thr Ser Met Lys Phe Val Lys Asn Val Ile Ala 140 145 150

Gly Ile Arg Glu Thr Glu Glu Lys Phe Tyr Tyr Ile Val Gln Glu 155 160 165

Glu Lys Asn Tyr Arg Glu Ser Leu Thr His Cys Arg Ile Arg Gly
170 175 180

Gly Met Leu Ala Met Pro Lys Asp Glu Ala Ala Asn Thr Leu Ile 185 190 195

Ala Asp Tyr Val Ala Lys Ser Gly Phe Phe Arg Val Phe Ile Gly 200 205 210

Val Asn Asp Leu Glu Arg Glu Gly Gln Tyr Met Ser Thr Asp Asn 215 220 225

Thr Pro Leu Gln Asn Tyr Ser Asn Trp Asn Glu Gly Glu Pro Ser 230 235 240

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Glu Phe Ile Lys Lys Lys Lys

<210> 98

<211> 24

<212> DNA

<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

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<212> DNA

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- <211> 730
- <212> PRT
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- Met Phe Ala Ser Gly Trp Asn Gln Thr Val Pro Ile Glu Glu Ala 35 40 45
- Gly Ser Met Ala Ala Leu Leu Leu Leu Pro Leu Leu Leu Leu Leu 50 55 60
- Pro Leu Leu Leu Lys Leu His Leu Trp Pro Gln Leu Arg Trp 65 70 75
- Leu Pro Ala Asp Leu Ala Phe Ala Val Arg Ala Leu Cys Cys Lys 80 85 90
- Arg Ala Leu Arg Ala Arg Ala Leu Ala Ala Ala Ala Ala Asp Pro 95 100 105
- Glu Gly Pro Glu Gly Gly Cys Ser Leu Ala Trp Arg Leu Ala Glu 110 115 120
- Leu Ala Gln Gln Arg Ala Ala His Thr Phe Leu Ile His Gly Ser 125 130 135
- Ala Arg Ala Phe Leu Arg Ala Leu Gly Trp Asp Trp Gly Pro Asp 155 160 165
- Gly Gly Asp Ser Gly Glu Gly Ser Ala Gly Glu Gly Glu Arg Ala 170 175 180
- Ala Pro Gly Ala Gly Asp Ala Ala Ala Gly Ser Gly Ala Glu Phe
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- Ala Gly Gly Asp Gly Ala Ala Arg Gly Gly Gly Ala Ala Pro 200 205 210

Leu Ser Pro Gly Ala Thr Val Ala Leu Leu Pro Ala Gly Pro Glu Phe Leu Trp Leu Trp Phe Gly Leu Ala Lys Ala Gly Leu Arg 230 Thr Ala Phe Val Pro Thr Ala Leu Arg Arg Gly Pro Leu Leu His Cys Leu Arg Ser Cys Gly Ala Arg Ala Leu Val Leu Ala Pro Glu Phe Leu Glu Ser Leu Glu Pro Asp Leu Pro Ala Leu Arg Ala Met Gly Leu His Leu Trp Ala Ala Gly Pro Gly Thr His Pro Ala Gly Ile Ser Asp Leu Leu Ala Glu Val Ser Ala Glu Val Asp Gly Pro 305 Val Pro Gly Tyr Leu Ser Ser Pro Gln Ser Ile Thr Asp Thr Cys 325 Leu Tyr Ile Phe Thr Ser Gly Thr Thr Gly Leu Pro Lys Ala Ala Arg Ile Ser His Leu Lys Ile Leu Gln Cys Gln Gly Phe Tyr Gln Leu Cys Gly Val His Gln Glu Asp Val Ile Tyr Leu Ala Leu Pro Leu Tyr His Met Ser Gly Ser Leu Leu Gly Ile Val Gly Cys Met 385 Gly Ile Gly Ala Thr Val Val Leu Lys Ser Lys Phe Ser Ala Gly Gln Phe Trp Glu Asp Cys Gln Gln His Arg Val Thr Val Phe Gln Tyr Ile Gly Glu Leu Cys Arg Tyr Leu Val Asn Gln Pro Pro Ser 430 Lys Ala Glu Arg Gly His Lys Val Arg Leu Ala Val Gly Ser Gly 445 Leu Arg Pro Asp Thr Trp Glu Arg Phe Val Arg Arg Phe Gly Pro Leu Gln Val Leu Glu Thr Tyr Gly Leu Thr Glu Gly Asn Val Ala 475 Thr Ile Asn Tyr Thr Gly Gln Arg Gly Ala Val Gly Arg Ala Ser Trp Leu Tvr Lys His Ile Phe Pro Phe Ser Leu Ile Arg Tyr Asp

505 510 500 Val Thr Thr Gly Glu Pro Ile Arg Asp Pro Gln Gly His Cys Met Ala Thr Ser Pro Gly Glu Pro Gly Leu Leu Val Ala Pro Val Ser 530 Gln Gln Ser Pro Phe Leu Gly Tyr Ala Gly Gly Pro Glu Leu Ala Gln Gly Lys Leu Leu Lys Asp Val Phe Arg Pro Gly Asp Val Phe Phe Asn Thr Gly Asp Leu Leu Val Cys Asp Asp Gln Gly Phe Leu Arg Phe His Asp Arg Thr Gly Asp Thr Phe Arg Trp Lys Gly Glu 590 Asn Val Ala Thr Thr Glu Val Ala Glu Val Phe Glu Ala Leu Asp Phe Leu Gln Glu Val Asn Val Tyr Gly Val Thr Val Pro Gly His 625 620 Glu Gly Arg Ala Gly Met Ala Ala Leu Val Leu Arg Pro Pro His 635 Ala Leu Asp Leu Met Gln Leu Tyr Thr His Val Ser Glu Asn Leu 655 650 Pro Pro Tyr Ala Arg Pro Arg Phe Leu Arg Leu Gln Glu Ser Leu Ala Thr Thr Glu Thr Phe Lys Gln Gln Lys Val Arg Met Ala Asn 685 680 Glu Gly Phe Asp Pro Ser Thr Leu Ser Asp Pro Leu Tyr Val Leu Asp Gln Ala Val Gly Ala Tyr Leu Pro Leu Thr Thr Ala Arg Tyr 720 710 Ser Ala Leu Leu Ala Gly Asn Leu Arg Ile 725 <210> 103 <211> 22 <212> DNA <213> Artificial Sequence

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Gly Glu Val Arg Gln Ala Tyr Gly Ala Lys Gly Phe Ser Leu Ala 35 40 45

Asp Ile Pro Tyr Gln Glu Ile Ala Gly Glu His Leu Arg Ile Cys 50 55 60

Pro Gln Glu Tyr Thr Cys Cys Thr Thr Glu Met Glu Asp Lys Leu 65 70 75

Ser Gln Gln Ser Lys Leu Glu Phe Glu Asn Leu Val Glu Glu Thr Ser His Phe Val Arg Thr Thr Phe Val Ser Arg His Lys Lys Phe 100 Asp Glu Phe Phe Arg Glu Leu Leu Glu Asn Ala Glu Lys Ser Leu Asn Asp Met Phe Val Arg Thr Tyr Gly Met Leu Tyr Met Gln Asn 125 Ser Glu Val Phe Gln Asp Leu Phe Thr Glu Leu Lys Arg Tyr Tyr Thr Gly Gly Asn Val Asn Leu Glu Glu Met Leu Asn Asp Phe Trp 155 Ala Arg Leu Leu Glu Arg Met Phe Gln Leu Ile Asn Pro Gln Tyr His Phe Ser Glu Asp Tyr Leu Glu Cys Val Ser Lys Tyr Thr Asp Gln Leu Lys Pro Phe Gly Asp Val Pro Arg Lys Leu Lys Ile Gln Val Thr Arg Ala Phe Ile Ala Ala Arg Thr Phe Val Gln Gly Leu 215 Thr Val Gly Arg Glu Val Ala Asn Arg Val Ser Lys Val Ser Pro Thr Pro Gly Cys Ile Arg Ala Leu Met Lys Met Leu Tyr Cys Pro Tyr Cys Arg Gly Leu Pro Thr Val Arg Pro Cys Asn Asn Tyr Cys Leu Asn Val Met Lys Gly Cys Leu Ala Asn Gln Ala Asp Leu Asp Thr Glu Trp Asn Leu Phe Ile Asp Ala Met Leu Leu Val Ala Glu Arg Leu Glu Gly Pro Phe Asn Ile Glu Ser Val Met Asp Pro Ile 315 Asp Val Lys Ile Ser Glu Ala Ile Met Asn Met Gln Glu Asn Ser Met Gln Val Ser Ala Lys Val Phe Gln Gly Cys Gly Gln Pro Lys Pro Ala Pro Ala Leu Arg Ser Ala Arg Ser Ala Pro Glu Asn Phe Asn Thr Arg Phe Arg Pro Tyr Asn Pro Glu Glu Arg Pro Thr Thr

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Glu Cys Trp Asn	Gly His Ser 425	Lys Ala Aro		Glu Ile 435							
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Trp Gly Gln Ala Leu Glu Glu Glu Glu Gly Ala Leu Leu Ala
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Gln Ala Gly Glu Lys Leu Glu Pro Ser Thr Thr Ser Thr Ser Gln
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Pro His Leu Ile Phe Ile Leu Ala Asp Asp Gln Gly Phe Arg Asp 80 85 90

Val Gly Tyr His Gly Ser Glu Ile Lys Thr Pro Thr Leu Asp Lys 95 100 105

Leu Ala Ala Glu Gly Val Lys Leu Glu Asn Tyr Tyr Val Gln Pro

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Ile	His	Thr	Gly	Leu 140	Gln	His	Ser	Ile	Ile 145	Arg	Pro	Thr	Gln	Pro 150
Asn	Cys	Leu	Pro	Leu 155	Asp	Asn	Ala	Thr	Leu 160	Pro	Gln	Lys	Leu	Lys 165
Glu	Val	Gly	Tyr	Ser 170	Thr	His	Met	Val	Gly 175	Lys	Trp	His	Leu	Gly 180
Phe	Asn	Arg	Lys	Glu 185	Cys	Met	Pro	Thr	Arg 190	Arg	Gly	Phe	Asp	Thr 195
Phe	Phe	Gly	Ser	Leu 200	Leu	Gly	Ser	Gly	Asp 205	Tyr	Tyr	Thr	His	Tyr 210
Lys	Cys	Asp	Ser	Pro 215	Gly	Met	Cys	Gly	Tyr 220	Asp	Leu	Tyr	Glu	Asn 225
Asp	Asn	Ala	Ala	Trp 230	Asp	Tyr	Asp	Asn	Gly 235	Ile	Tyr	Ser	Thr	Gln 240
Met	Tyr	Thr	Gln	Arg 245	Val	Gln	Gln	Ile	Leu 250	Ala	Ser	His	Asn	Pro 255
Thr	Lys	Pro	Ile	Phe 260	Leu	Tyr	Thr	Ala	Tyr 265	Gln	Ala	Val	His	Ser 270
Pro	Leu	Gln	Ala	Pro 275	Gly	Arg	Tyr	Phe	Glu 280	His	Tyr	Arg	Ser	Ile 285
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Ser	Pro	Leu	Leu	Lys 365	Asn	Lys	Gly	Thr	Val 370	Cys	Lys	Glu	Leu	Val 375
His	Ile	Thr	Asp	Trp 380	Tyr	Pro	Thr	Leu	Ile 385	Ser	Leu	Ala	Glu	Gly 390
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<211> 338

<212> PRT

<213> Homo sapiens

<400> 119

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330

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Gly Lys Lys Gly Asn Glu Glu Lys
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<210> 121
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<210> 122 <211> 50

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Darchall whee

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<213> Homo sapiens

<400> 123

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<213> Homo sapiens

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Ala Arg Arg Val His Glu Leu Glu Arg Val Lys Arg Arg Cys Leu
35 40 45

Glu Asn Gly Asn Leu Lys Glu Lys Asp Ile Leu Val Leu Pro Leu 50 55 60

Asp Leu Thr Asp Thr Gly Ser His Glu Ala Ala Thr Lys Ala Val 6570 75

Leu Gln Glu Phe Gly Arg Ile Asp Ile Leu Val Asn Asn Gly Gly

90 80 85 Met Ser Gln Arg Ser Leu Cys Met Asp Thr Ser Leu Asp Val Tyr

Arg Lys Leu Ile Glu Leu Asn Tyr Leu Gly Thr Val Ser Leu Thr 120

Lys Cys Val Leu Pro His Met Ile Glu Arg Lys Gln Gly Lys Ile 125

Val Thr Val Asn Ser Ile Leu Gly Ile Ile Ser Val Pro Leu Ser 140

Ile Gly Tyr Cys Ala Ser Lys His Ala Leu Arg Gly Phe Phe Asn 155

Gly Leu Arg Thr Glu Leu Ala Thr Tyr Pro Gly Ile Ile Val Ser

Asn Ile Cys Pro Gly Pro Val Gln Ser Asn Ile Val Glu Asn Ser

Leu Ala Gly Glu Val Thr Lys Thr Ile Gly Asn Asn Gly Asp Gln

Ser His Lys Met Thr Thr Ser Arg Cys Val Arg Leu Met Leu Ile

Ser Met Ala Asn Asp Leu Lys Glu Val Trp Ile Ser Glu Gln Pro

Phe Leu Leu Val Thr Tyr Leu Trp Gln Tyr Met Pro Thr Trp Ala

Trp Trp Ile Thr Asn Lys Met Gly Lys Lys Arg Ile Glu Asn Phe

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Thr Lys His Asp

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<210> 126

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<210> 132

<211> 571

<212> PRT

<213> Homo sapiens

<400> 132

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Ile Thr Thr Tyr Ala Ile Asn Val Ser Leu Met Trp Leu Ser Phe 35 40 45

Arg Lys Val Gln Glu Pro Gln Gly Lys Ala Lys Arg His Gly Asn 50 55 60

Thr Val Pro Gly Glu Trp Pro Trp Gln Ala Ser Val Arg Arg Gln 65 70 75

Gly Ala His Ile Cys Ser Gly Ser Leu Val Ala Asp Thr Trp Val Leu Thr Ala Ala His Cys Phe Glu Lys Ala Ala Ala Thr Glu Leu Asn Ser Trp Ser Val Val Leu Gly Ser Leu Gln Arg Glu Gly Leu Ser Pro Gly Ala Glu Glu Val Gly Val Ala Ala Leu Gln Leu Pro 130 Arg Ala Tyr Asn His Tyr Ser Gln Gly Ser Asp Leu Ala Leu Leu Gln Leu Ala His Pro Thr Thr His Thr Pro Leu Cys Leu Pro Gln Pro Ala His Arg Phe Pro Phe Gly Ala Ser Cys Trp Ala Thr Gly Trp Asp Gln Asp Thr Ser Asp Ala Pro Gly Thr Leu Arg Asn Leu Arg Leu Arg Leu Ile Ser Arg Pro Thr Cys Asn Cys Ile Tyr Asn Gln Leu His Gln Arg His Leu Ser Asn Pro Ala Arg Pro Gly Met 215 225 Leu Cys Gly Gly Pro Gln Pro Gly Val Gln Gly Pro Cys Gln Gly Asp Ser Gly Gly Pro Val Leu Cys Leu Glu Pro Asp Gly His Trp Val Gln Ala Gly Ile Ile Ser Phe Ala Ser Ser Cys Ala Gln Glu Asp Ala Pro Val Leu Leu Thr Asn Thr Ala Ala His Ser Ser Trp 285 Leu Gln Ala Arg Val Gln Gly Ala Ala Phe Leu Ala Gln Ser Pro Glu Thr Pro Glu Met Ser Asp Glu Asp Ser Cys Val Ala Cys Gly Ser Leu Arg Thr Ala Gly Pro Gln Ala Gly Ala Pro Ser Pro Trp Pro Trp Glu Ala Arg Leu Met His Gln Gly Gln Leu Ala Cys Gly 345 Gly Ala Leu Val Ser Glu Glu Ala Val Leu Thr Ala Ala His Cys Phe Ile Gly Arg Gln Ala Pro Glu Glu Trp Ser Val Gly Leu Gly

			365					370					375
Thr A	rg Pro	Glu	Glu 380	Trp	Gly	Leu	Lys	Gln 385	Leu	Ile	Leu	His	Gly 390
Ala Ty	yr Thr	His	Pro 395	Glu	Gly	Gly	Tyr	Asp 400	Met	Ala	Leu	Leu	Leu 405
Leu Al	la Gln	Pro	Val 410	Thr	Leu	Gly	Ala	Ser 415	Leu	Arg	Pro	Leu	Cys 420
Leu P	ro Tyr	Pro	Asp 425	His	His	Leu	Pro	Asp 430	Gly	Glu	Arg	Gly	Trp 435
Val Le	eu Gly	Arg	Ala 440	Arg	Pro	Gly	Ala	Gly 445	Ile	Ser	Ser	Leu	Gln 450
Thr Va	al Pro	Val	Thr 455	Leu	Leu	Gly	Pro	Arg 460	Ala	Cys	Ser	Arg	Leu 465
His Al	la Ala	Pro	Gly 470	Gly	Asp	Gly	Ser	Pro 475	Ile	Leu	Pro	Gly	Met 480
Val C	ys Thr	Ser	Ala 485	Val	Gly	Glu	Leu	Pro 490	Ser	Cys	Glu	Gly	Leu 495
Ser G	ly Ala	Pro	Leu 500	Val	His	Glu	Val	Arg 505	Gly	Thr	Trp	Phe	Leu 510
Ala G	ly Leu	His	Ser 515	Phe	Gly	Asp	Ala	Cys 520	Gln	Gly	Pro	Ala	Arg 525
Pro A	la Val	Phe	Thr 530	Ala	Leu	Pro	Ala	Tyr 535	Glu	Asp	Trp	Val	Ser 540
Ser Le	eu Asp	Trp	Gln 545	Val	Tyr	Phe	Ala	Glu 550	Glu	Pro	Glu	Pro	Glu 555
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<213> Homo sapiens

<220>

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<400> 137

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Val	Gln	Val	Pro	Glu 35	Asp	Pro	Val	Val	Ala 40	Leu	Val	Gly	Thr	Asp 45
Ala	Thr	Leu	Cys	Cys 50	Ser	Phe	Ser	Pro	Glu 55	Pro	Gly	Phe	Ser	Leu 60
Ala	Gln	Leu	Asn	Leu 65	Ile	Trp	Gln	Leu	Thr 70	Asp	Thr	Lys	Gln	Leu 75
Val	His	Ser	Phe	Ala 80	Glu	Gly	Gln	Asp	Gln 85	Gly	Ser	Ala	Tyr	Ala 90
Asn	Arg	Thr	Ala	Leu 95	Phe	Pro	Asp	Leu	Leu 100	Ala	Gln	Gly	Asn	Ala 105
Ser	Leu	Arg	Leu	Gln 110	Arg	Val	Arg	Val	Ala 115	Asp	Glu	Gly	Ser	Phe 120
Thr	Cys	Phe	Val	Ser 125	Ile	Arg	Asp	Phe	Gly 130	Ser	Ala	Ala	Val	Ser 135
Leu	Gln	Val	Ala	Ala 140	Pro	Tyr	Ser	Lys	Pro 145	Ser	Met	Thr	Leu	Glu 150
Pro	Asn	Lys	Asp	Leu 155	Arg	Pro	Gly	Asp	Thr 160	Val	Thr	Ile	Thr	Cys 165
Ser	Ser	Tyr	Gln	Gly 170	Tyr	Pro	Glu	Ala	Glu 175	Val	Phe	Trp	Gln	Asp 180
_	Gln	_		185					190					195
Ala	Asn	Glu	Gln	Gly 200	Leu	Phe	Asp	Val	His 205	Ser	Val	Leu	Arg	Val 210
Val	Leu	Gly	Ala	Asn 215	Gly	Thr	Tyr	Ser	Cys 220	Leu	Val	Arg	Asn	Pro 225
Val	Leu	Gln	Gln	Asp 230	Ala	His	Xaa	Ser	Val 235	Thr	Ile	Thr	Gly	Gln 240
	Met			245					250					255
	Val			260					265					270
	Arg			275					280					285
Glu	Asp	Gln	Asp	Gly 290	Glu	Gly	Glu	Gly	Ser 295	Lys	Thr	Ala	Leu	Gln 300

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- <212> PRT
- <213> Homo sapiens

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- Asp Leu Met Leu Val His Tyr Glu Gly Tyr Leu Glu Lys Asp Gly
 50 55 60
- Ser Leu Phe His Ser Thr His Lys His Asn Asn Gly Gln Pro Ile 65 70 75
- Trp Phe Thr Leu Gly Ile Leu Glu Ala Leu Lys Gly Trp Asp Gln 80 85 90
- Gly Leu Lys Gly Met Cys Val Gly Glu Lys Arg Lys Leu Ile Ile 95 100 105
- Pro Pro Ala Leu Gly Tyr Gly Lys Glu Gly Lys Gly Lys Ile Pro 110 115 120
- Pro Glu Ser Thr Leu Ile Phe Asn Ile Asp Leu Leu Glu Ile Arg 125 130 135
- Asn Gly Pro Arg Ser His Glu Ser Phe Gln Glu Met Asp Leu Asn 140 145 150
- Asp Asp Trp Lys Leu Ser Lys Asp Glu Val Lys Ala Tyr Leu Lys
 155 160 165
- Lys Glu Phe Glu Lys His Gly Ala Val Val Asn Glu Ser His His 170 175 180
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Leu

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- <212> DNA
- <213> Artificial Sequence

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<212> PRT

<213> Homo sapiens

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Glu Val Thr Val Pro Ala Thr Leu Asn Val Leu Asn Gly Ser Asp 35 40 45

Ala Arg Leu Pro Cys Thr Phe Asn Ser Cys Tyr Thr Val Asn His 50 55 60

Lys Gln Phe Ser Leu Asn Trp Thr Tyr Gln Glu Cys Asn Asn Cys 65 70 75

Ser Glu Glu Met Phe Leu Gln Phe Arg Met Lys Ile Ile Asn Leu 80 85 90

Lys Leu Glu Arg Phe Gln Asp Arg Val Glu Phe Ser Gly Asn Pro 95 100 105

Ser Lys Tyr Asp Val Ser Val Met Leu Arg Asn Val Gln Pro Glu 110 115 120

Asp Glu Gly Ile Tyr Asn Cys Tyr Ile Met Asn Pro Pro Asp Arg 125 130 135

His Arg Gly His Gly Lys Ile His Leu Gln Val Leu Met Glu Glu 140 145 150

Pro Pro Glu Arg Asp Ser Thr Val Ala Val Ile Val Gly Ala Ser 155 160 165

Val Gly Gly Phe Leu Ala Val Val Ile Leu Val Leu Met Val Val 170 175 180

Lys Cys Val Arg Arg Lys Lys Glu Gln Lys Leu Ser Thr Asp Asp 185 190 195

Leu Lys Thr Glu Glu Glu Gly Lys Thr Asp Gly Glu Gly Asn Pro
200 205 210

Asp Asp Gly Ala Lys

215

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35 40 45

Asp Leu Gly Asn Gln Leu Glu Ala Lys Leu Asp Lys Pro Thr Val
50 55 60

Val His Tyr Leu Cys Ser Lys Lys Thr Glu Ser Tyr Phe Thr Ile
65 70 75

Trp Leu Asn Leu Glu Leu Leu Leu Pro Val Ile Ile Asp Cys Trp 80 85 90

Ile Asp Asn Ile Arg Leu Val Tyr Asn Lys Thr Ser Arg Ala Thr $95 \hspace{1.5cm} 100 \hspace{1.5cm} 105$

Gln Phe Pro Asp Gly Val Asp Val Arg Val Pro Gly Phe Gly Lys

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Ser	Tyr	Phe	His	Thr 140	Met	Val	Glu	Ser	Leu 145	Val	Gly	Trp	Gly	Tyr 150
Thr	Arg	Gly	Glu	Asp 155	Val	Arg	Gly	Ala	Pro 160	Tyr	Asp	Trp	Arg	Arg 165
Ala	Pro	Asn	Glu	Asn 170	Gly	Pro	Tyr	Phe	Leu 175	Ala	Leu	Arg	Glu	Met 180
Ile	Glu	Glu	Met	Tyr 185	Gln	Leu	Tyr	Gly	Gly 190	Pro	Val	Val	Leu	Val 195
Ala	His	Ser	Met	Gly 200	Asn	Met	Tyr	Thr	Leu 205	Tyr	Phe	Leu	Gln	Arg 210
Gln	Pro	Gln	Ala	Trp 215	Lys	Asp	Lys	Tyr	Ile 220	Arg	Ala	Phe	Val	Ser 225
Leu	Gly	Ala	Pro	Trp 230	Gly	Gly	Val	Ala	Lys 235	Thr	Leu	Arg	Val	Leu 240
Ala	Ser	Gly	Asp	Asn 245	Asn	Arg	Ile	Pro	Val 250	Ile	Gly	Pro	Leu	Lys 255
Ile	Arg	Glu	Gln	Gln 260	Arg	Ser	Ala	Val	Ser 265	Thr	Ser	Trp	Leu	Leu 270
Pro	Tyr	Asn	Tyr	Thr 275	Trp	Ser	Pro	Glu	Lys 280	Val	Phe	Val	Gln	Thr 285
Pro	Thr	Ile	Asn	Tyr 290	Thr	Leu	Arg	Asp	Tyr 295	Arg	Lys	Phe	Phe	Gln 300
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Ser	Phe	Pro	Asp	Arg 350	Asp	Pro	Lys	Ile	Cys 355	Phe	Gly	Asp	Gly	Asp 360
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Ser	Arg	Gln	Glu	His 380	Gln	Val	Leu	Leu	Gln 385	Glu	Leu	Pro	Gly	Ser 390
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<210> 162

<211> 224

<212> PRT

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<400> 162

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Asp Leu Arg Arg Phe Leu Thr Gln Pro Gln Val Val Ala Arg Ala 20 25 30

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Val Cys Leu Val Phe Ala Leu Ile Val Phe Ser Cys Ile Tyr Gly
Glu Gly Tyr Ser Asn Ala His Glu Ser Lys Gln Met Tyr Cys Val
Phe Asn Arg Asn Glu Asp Ala Cys Arg Tyr Gly Ser Ala Ile Gly
Val Leu Ala Phe Leu Ala Ser Ala Phe Phe Leu Val Val Asp Ala
Tyr Phe Pro Gln Ile Ser Asn Ala Thr Asp Arg Lys Tyr Leu Val
 Ile Gly Asp Leu Leu Phe Ser Ala Leu Trp Thr Phe Leu Trp Phe
Val Gly Phe Cys Phe Leu Thr Asn Gln Trp Ala Val Thr Asn Pro
Lys Asp Val Leu Val Gly Ala Asp Ser Val Arg Ala Ala Ile Thr
Phe Ser Phe Phe Ser Ile Phe Ser Trp Gly Val Leu Ala Ser Leu
Ala Tyr Gln Arg Tyr Lys Ala Gly Val Asp Asp Phe Ile Gln Asn
                 170
Tyr Val Asp Pro Thr Pro Asp Pro Asn Thr Ala Tyr Ala Ser Tyr
Pro Gly Ala Ser Val Asp Asn Tyr Gln Gln Pro Pro Phe Thr Gln
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Asn Ala Glu Thr Thr Glu Gly Tyr Gln Pro Pro Pro Val Tyr
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<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
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<210> 164
<211> 20
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe

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<223> Synthetic oligonucleotide probe
<400> 166
 ccaggaggct catgggaaag tcc 23
<210> 167
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 cctggtgccc ctgtttgtgc tgctggccct gctcgtgctg gcttcggcgg 250
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 tcttacccgc cgggaatcta gtgccttccg cagtgaaacc gccaaagccc 400
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agaagatget caaggagete ateaceagea eeegeetggg aacttactae 450 aactccagct ccgtctattc ctttggggag ggacccctca cctgcttctt 500 ctggttcatt ctccaaatcc ccgagcaccg ccggctgatg ctgagccccg 550 aggtggtgca ggcactgctg gtggaggagc tgctgtccac agtcaacagc 600 toggotgoog toccotacag ggoogagtac gaagtggaco cogagggoot 650 agtgatcctg gaagccagtg tgaaagacat agctgcattg aattccacgc 700 tgggttgtta ccgctacagc tacgtgggcc agggccaggt cctccggctg 750 aaggggcctg accacctggc ctccagctgc ctgtggcacc tgcagggccc 800 caaggacete atgeteaaac teeggetgga gtggaegetg geagagtgee 850 gggaccgact ggccatgtat gacgtggccg ggcccctgga gaagaggctc 900 atcacctcgg tgtacggctg cagccgccag gagcccgtgg tggaggttct 950 ggcgtcgggg gccatcatgg cggtcgtctg gaagaagggc ctgcacagct 1000 actacgaccc cttcgtgctc tccgtgcagc cggtggtctt ccaggcctgt 1050 gaagtgaacc tgacgctgga caacaggctc gactcccagg gcgtcctcag 1100 caccccgtac ttccccagct actactcgcc ccaaacccac tgctcctggc 1150 acctcacggt gccctctctg gactacggct tggccctctg gtttgatgcc 1200 tatgcactga ggaggcagaa gtatgatttg ccgtgcaccc agggccagtg 1250 gacgatccag aacaggagge tgtgtggett gegeateetg cagecetaeg 1300 ccgagaggat ccccgtggtg gccacggccg ggatcaccat caacttcacc 1350 teccagatet cecteacegg geoeggtgtg egggtgeact atggettgta 1400 caaccagtcg gacccctgcc ctggagagtt cctctgttct gtgaatggac 1450 tctgtgtccc tgcctgtgat ggggtcaagg actgccccaa cggcctggat 1500 gagagaaact gcgtttgcag agccacattc cagtgcaaag aggacagcac 1550 atgcatctca ctgcccaagg tctgtgatgg gcagcctgat tgtctcaacg 1600 gcagcgatga agagcagtgc caggaagggg tgccatgtgg gacattcacc 1650 ttccagtgtg aggaccggag ctgcgtgaag aagcccaacc cgcagtgtga 1700 tgggcggccc gactgcaggg acggctcgga tgaggagcac tgtgactgtg 1750 gcctccaggg cccctccagc cgcattgttg gtggagctgt gtcctccgag 1800 ggtgagtggc catggcaggc cagcetecag gtteggggte gacacatetg 1850

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<210> 169

<211> 802

<212> PRT

<213> Homo sapiens

<400> 169

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		290					295					300
Val Val '	Trp Ly	s Lys 305	Gly	Leu	His	Ser	Tyr 310	Tyr	Asp	Pro	Phe	Val 315
Leu Ser	Val Gl	n Pro 320	Val	Val	Phe	Gln	Ala 325	Cys	Glu	Val	Asn	Leu 330
Thr Leu I	Asp As	n Arg 335	Leu	Asp	Ser	Gln	Gly 340	Val	Leu	Ser	Thr	Pro 345
Tyr Phe	Pro Se	r Tyr 350	Tyr	Ser	Pro	Gln	Thr 355	His	Cys	Ser	Trp	His 360
Leu Thr	Val Pr	o Ser 365	Leu	Asp	Tyr	Gly	Leu 370	Ala	Leu	Trp	Phe	Asp 375
Ala Tyr A	Ala Le	u Arg 380	Arg	Gln	Lys	Tyr	Asp 385	Leu	Pro	Cys	Thr	Gln 390
Gly Gln	Trp Th	r Ile 395	Gln	Asn	Arg	Arg	Leu 400	Cys	Gly	Leu	Arg	Ile 405
Leu Gln	Pro Ty	r Ala 410	Glu	Arg	Ile	Pro	Val 415	Val	Ala	Thr	Ala	Gly 420
Ile Thr	Ile As	n Phe 425	Thr	Ser	Gln	Ile	Ser 430	Leu	Thr	Gly	Pro	Gly 435
Val Arg	Val Hi	s Tyr 440	Gly	Leu	Tyr	Asn	Gln 445	Ser	Asp	Pro	Суз	Pro 450
Gly Glu	Phe Le	u Cys 455	Ser	Val	Asn	Gly	Leu 460	Cys	Val	Pro	Ala	Cys 465
Asp Gly	Val Ly	s Asp 470	Суз	Pro	Asn	Gly	Leu 475	Asp	Glu	Arg	Asn	Cys 480
Val Cys i	Arg Al	a Thr . 485	Phe	Gln	Cys	Lys	Glu 490	Asp	Ser	Thr	Cys	Ile 495
Ser Leu 1	Pro Ly	s Val 500	Cys	Asp	Gly	Gln	Pro 505	Asp	Cys	Leu	Asn	Gly 510
Ser Asp	Glu Gl	u Gln 515	Cys	Gln	Glu	Gly	Val 520	Pro	Cys	Gly	Thr	Phe 525
Thr Phe (Gln Cy	s Glu 530	Asp	Arg	Ser	Cys	Val 535	Lys	Lys	Pro	Asn	Pro 540
Gln Cys i	Asp Gl	y Arg 545	Pro	Asp	Cys	Arg	Asp 550	Gly	Ser	Asp	Glu	Glu 555
His Cys A	Asp Cy	s Gly 560	Leu	Gln	Gly	Pro	Ser 565	Ser	Arg	Ile	Val	Gly 570
Gly Ala	Val Se	r Ser 575	Glu	Gly	Glu	Trp	Pro 580	Trp	Gln	Ala	Ser	Leu 585

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Gln Val Arg Gly Arg His Ile Cys Gly Gly Ala Leu Ile Ala Asp
                590
Arg Trp Val Ile Thr Ala Ala His Cys Phe Gln Glu Asp Ser Met
                605
                                     610
                                                         615
Ala Ser Thr Val Leu Trp Thr Val Phe Leu Gly Lys Val Trp Gln
Asn Ser Arg Trp Pro Gly Glu Val Ser Phe Lys Val Ser Arg Leu
Leu Leu His Pro Tyr His Glu Glu Asp Ser His Asp Tyr Asp Val
Ala Leu Leu Gln Leu Asp His Pro Val Val Arg Ser Ala Ala Val
Arg Pro Val Cys Leu Pro Ala Arg Ser His Phe Phe Glu Pro Gly
Leu His Cys Trp Ile Thr Gly Trp Gly Ala Leu Arg Glu Gly Gly
                                                         705
                695
Pro Ile Ser Asn Ala Leu Gln Lys Val Asp Val Gln Leu Ile Pro
                710
Gln Asp Leu Cys Ser Glu Ala Tyr Arg Tyr Gln Val Thr Pro Arg
                725
Met Leu Cys Ala Gly Tyr Arg Lys Gly Lys Lys Asp Ala Cys Gln
Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Ala Leu Ser Gly Arg
                755
Trp Phe Leu Ala Gly Leu Val Ser Trp Gly Leu Gly Cys Gly Arg
Pro Asn Tyr Phe Gly Val Tyr Thr Arg Ile Thr Gly Val Ile Ser
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<210> 170

<211> 1327

<212> DNA

<213> Homo sapiens

Trp Ile Gln Gln Val Val Thr

800

<400> 170

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tgttctgtga atggactctg tgtccctgcc tgtgatgggg tcaaggactg 250 ccccaacggc ctggatgaga gaaactgcgt ttgcagagcc acattccagt 300 gcaaagagga cagcacatgc atctcactgc ccaaggtctg tgatgggcag 350 cctgattgtc tcaacggcag cgatgaagag cagtgccagg aaggggtgcc 400 atgtgggaca ttcaccttcc agtgtgagga ccggagctgc gtgaagaagc 450 ccaacccgca gtgtgatggg cggcccgact gcagggacgg ctcggatgag 500 gagcactgtg actgtggcct ccagggcccc tccagccgca ttgttggtgg 550 agetgtgtcc teegagggtg agtggecatg geaggecage eteeaggtte 600 ggggtcgaca catctgtggg ggggccctca tcgctgaccg ctgggtgata 650 acagetgeec actgetteea ggaggaeage atggeeteea eggtgetgtg 700 gaccqtgttc ctgggcaagg tgtggcagaa ctcgcgctgg cctggagagg 750 tqtccttcaa ggtgagccgc ctgctcctgc acccgtacca cgaagaggac 800 agccatgact acgacgtggc gctgctgcag ctcgaccacc cggtggtgcg 850 ctcggccgcc gtgcgccccg tctgcctgcc cgcgcgctcc cacttcttcg 900 agcccggcct gcactgctgg attacgggct ggggcgcctt gcgcgagggc 950 ggccccatca gcaacgctct gcagaaagtg gatgtgcagt tgatcccaca 1000 ggacctgtgc agcgaggcct atcgctacca ggtgacgcca cgcatgctgt 1050 gtgccggcta ccgcaagggc aagaaggatg cctgtcaggg tgactcaggt 1100 qqtccqctqq tqtqcaaqqc actcagtggc cgctggttcc tggcggggct 1150 ggtcagctgg ggcctgggct gtggccggcc taactacttc ggcgtctaca 1200 cccgcatcac aggtgtgatc agctggatcc agcaagtggt gacctgagga 1250 actgccccc tgcaaagcag ggcccacctc ctggactcag agagcccagg 1300 gcaactgcca agcaggggga caagtat 1327

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<210> 171
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<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 171

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<210> 172

<213> Homo sapiens

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<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
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<211> 50
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<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 173
 atggcctcca cggtgctgtg gaccgtgttc ctgggcaagg tgtggcagaa 50
<210> 174
<211> 25
<212> DNA
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<223> Synthetic oligonucleotide probe
tgcctatgca ctgaggaggc agaag 25
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<400> 175
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<212> DNA
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<210> 178

<211> 354

<212> PRT

<213> Homo sapiens

<400> 178

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Cys Phe Ala Ala Gly Ser Pro Val Pro Phe Gly Pro Glu Gly Arg
20 25 30

Leu Glu Asp Lys Leu His Lys Pro Lys Ala Thr Gln Thr Glu Val

Lys Pro Ser Val Arg Phe Asn Leu Arg Thr Ser Lys Asp Pro Glu 50 55 60

His Glu Gly Cys Tyr Leu Ser Val Gly His Ser Gln Pro Leu Glu 65 70 75

Asp Cys Ser Phe Asn Met Thr Ala Lys Thr Phe Phe Ile Ile His 80 85 90

Gly Trp Thr Met Ser Gly Ile Phe Glu Asn Trp Leu His Lys Leu
95 100 105

Val Ser Ala Leu His Thr Arg Glu Lys Asp Ala Asn Val Val 110 115 120

Val Asp Trp Leu Pro Leu Ala His Gln Leu Tyr Thr Asp Ala Val 125 130 135

Asn Asn Thr Arg Val Val Gly His Ser Ile Ala Arg Met Leu Asp 140 145 150

Trp Leu Gln Glu Lys Asp Asp Phe Ser Leu Gly Asn Val His Leu
155 160 165

Ile Gly Tyr Ser Leu Gly Ala His Val Ala Gly Tyr Ala Gly Asn 170 175 180

Phe Val Lys Gly Thr Val Gly Arg Ile Thr Gly Leu Asp Pro Ala 185 190 195

Gly Pro Met Phe Glu Gly Ala Asp Ile His Lys Arg Leu Ser Pro 200 205 210

Asp Asp Ala Asp Phe Val Asp Val Leu His Thr Tyr Thr Arg Ser 215 220 225

Phe Gly Leu Ser Ile Gly Ile Gln Met Pro Val Gly His Ile Asp 230 235 240

<210> 182

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                                     265
Lys Cys Glu His Glu Arg Ala Val His Leu Phe Val Asp Ser Leu
Val Asn Gln Asp Lys Pro Ser Phe Ala Phe Gln Cys Thr Asp Ser
                                                          300
                 290
Asn Arg Phe Lys Lys Gly Ile Cys Leu Ser Cys Arg Lys Asn Arg
Cys Asn Ser Ile Gly Tyr Asn Ala Lys Lys Met Arg Asn Lys Arg
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Asn Ser Lys Met Tyr Leu Lys Thr Arg Ala Gly Met Pro Phe Arg
Gly Asn Leu Gln Ser Leu Glu Cys Pro
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<210> 179
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<223> Synthetic oligonucleotide probe
<400> 180
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<210> 181
<211> 44
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- <211> 3240 <212> DNA
- <213> Homo sapiens

<400> 182 cggacgcgtg ggcggacgcg tgggcctggg caagggccgg ggcgccgggc 50 acgcgctgga ggagtggagc agcacccggc cggccctggg ggctgacagt 150 cggcaaagtt tggcccgaag aggaagtggt ctcaaacccc ggcaggtggc 200 gaccaggcca gaccaggggc gctcgctgcc tgcgggcggg ctgtaggcga 250 gggcgcgccc cagtgccgag acccggggct tcaggagccg gccccgggag 300 agaagagtgc ggcggcggac ggagaaaaca actccaaagt tggcgaaagg 350 caccgccct actcccgggc tgccgccgcc tccccgcccc cagccctggc 400 atccagagta cgggtcgagc ccgggccatg gagcccccct ggggaggcgg 450 caccagggag cctgggcgcc cggggctccg ccgcgacccc atcgggtaga 500 ccacagaagc tccgggaccc ttccggcacc tctggacagc ccaggatgct 550 gttggccacc ctcctcctcc tcctccttgg aggcgctctg gcccatccag 600 accggattat ttttccaaat catgcttgtg aggacccccc agcagtgctc 650 ttagaagtgc agggcacctt acagaggccc ctggtccggg acagccgcac 700 ctccctgcc aactgcacct ggctcatcct gggcagcaag gaacagactg 750 tcaccatcag gttccagaag ctacacctgg cctgtggctc agagcgctta 800 accetacget ecceteteca gecactgate tecetgtgtg aggeacetee 850 cagccctctg cagctgcccg ggggcaacgt caccatcact tacagctatg 900 ctggggccag agcacccatg ggccagggct tcctgctctc ctacagccaa 950 gattggctga tgtgcctgca ggaagagttt cagtgcctga accaccgctg 1000 tgtatctgct gtccagcgct gtgatggggt tgatgcctgt ggcgatggct 1050 ctgatgaagc aggttgcagc tcagacccct tccctggcct gaccccaaga 1100 cccgtcccct ccctgccttg caatgtcacc ttggaggact tctatggggt 1150 cttctcctct cctggatata cacacctagc ctcagtctcc cacccccagt 1200 cetgccattg getgetggac ceccatgatg geeggegget ggeegtgege 1250 ttcacagccc tggacttggg ctttggagat gcagtgcatg tgtatgacgg 1300 ccctgggccc cctgagagct cccgactact gcgtagtctc acccacttca 1350

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caccggaatg ccaattaact agagaccctc cagccccaa ggggaggatt 3100
tgggcagaac ctgaggtttt gccatccaca atccctccta cagggcctgg 3150
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tcagtaagtt gaggtcaaaa ataaaggaat catacatctc 3240

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<211> 713

<212> PRT

<213> Homo sapiens

<400> 183

Met Leu Leu Ala Thr Leu Leu Leu Leu Leu Leu Gly Gly Ala Leu 1 5 10 15

Ala His Pro Asp Arg Ile Ile Phe Pro Asn His Ala Cys Glu Asp 20 25 30

Pro Pro Ala Val Leu Leu Glu Val Gln Gly Thr Leu Gln Arg Pro 35 40 45

Leu Val Arg Asp Ser Arg Thr Ser Pro Ala Asn Cys Thr Trp Leu
50 55 60

Ile Leu Gly Ser Lys Glu Gln Thr Val Thr Ile Arg Phe Gln Lys $65 \hspace{1cm} 70 \hspace{1cm} 75$

Leu His Leu Ala Cys Gly Ser Glu Arg Leu Thr Leu Arg Ser Pro 80 85 90

Leu Gln Pro Leu Ile Ser Leu Cys Glu Ala Pro Pro Ser Pro Leu 95 100 105

Gln Leu Pro Gly Gly Asn Val Thr Ile Thr Tyr Ser Tyr Ala Gly
110 115 120

Ala Arg Ala Pro Met Gly Gln Gly Phe Leu Leu Ser Tyr Ser Gln 125 130 135

Asp Trp Leu Met Cys Leu Gln Glu Glu Phe Gln Cys Leu Asn His 140 145 150

Arg Cys Val Ser Ala Val Gln Arg Cys Asp Gly Val Asp Ala Cys 155 160 165

Gly Asp Gly Ser Asp Glu Ala Gly Cys Ser Ser Asp Pro Phe Pro

				170					175					180
Gly	Leu	Thr	Pro	Arg 185	Pro	Val	Pro	Ser	Leu 190	Pro	Cys	Asn	Val	Thr 195
Leu	Glu	Asp	Phe	Tyr 200	Gly	Val	Phe	Ser	Ser 205	Pro	Gly	Tyr	Thr	His 210
Leu	Ala	Ser	Val	Ser 215	His	Pro	Gln	Ser	Cys 220	His	Trp	Leu	Leu	Asp 225
Pro	His	Asp	Gly	Arg 230	Arg	Leu	Ala	۷al	Arg 235	Phe	Thr	Ala	Leu	Asp 240
Leu	Gly	Phe	Gly	Asp 245	Ala	Val	His	Val	Tyr 250	Asp	Gly	Pro	Gly	Pro 255
Pro	Glu	Ser	Ser	Arg 260	Leu	Leu	Arg	Ser	Leu 265	Thr	His	Phe	Ser	Asn 270
Gly	Lys	Ala	Val	Thr 275	Val	Glu	Thr	Leu	Ser 280	Gly	Gln	Ala	Val	Val 285
Ser	Tyr	His	Thr	Val 290	Ala	Trp	Ser	Asn	Gly 295	Arg	Gly	Phe	Asn	Ala 300
Thr	Tyr	His	Val	Arg 305	Gly	Tyr	Cys	Leu	Pro 310	Trp	Asp	Arg	Pro	Cys 315
Gly	Leu	Gly	Ser	Gly 320	Leu	Gly	Ala	Gly	Glu 325	Gly	Leu	Gly	Glu	Arg 330
Суз	Tyr	Ser	Glu	Ala 335	Gln	Arg	Cys	Asp	Gly 340	Ser	Trp	Asp	Cys	Ala 345
Asp	Gly	Thr	Asp	Glu 350	Glu	Asp	Cys	Pro	Gly 355	Cys	Pro	Pro	Gly	His 360
Phe	Pro	Cys	Gly	Ala 365	Ala	Gly	Thr	Ser	Gly 370	Ala	Thr	Ala	Cys	Tyr 375
Leu	Pro	Ala	Asp	Arg 380	Cys	Asn	Tyr	Gln	Thr 385	Phe	Cys	Ala	Asp	Gly 390
Ala	Asp	Glu	Arg	Arg 395	Суз	Arg	His	Cys	Gln 400	Pro	Gly	Asn	Phe	Arg 405
Cys	Arg	Asp	Glu	Lys 410	Cys	Val	Tyr	Glu	Thr 415	Trp	Val	Суз	Asp	Gly 420
Gln	Pro	Asp	Cys	Ala 425	Asp	Gly	Ser	Asp	Glu 430		Asp	Cys	Ser	Tyr 435
Val	Leu	Pro	Arg	Lys 440	Val	Ile	Thr	Ala	Ala 445	Val	Ile	Gly	Ser	Leu 450
Val	Cys	Gly	Leu	Leu 455		Val	Ile	Ala	Leu 460		Cys	Thr	Cys	Lys 465

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Leu Tyr Ala Ile Arg Thr Gln Glu Tyr Ser Ile Phe Ala Pro Leu
Ser Arg Met Glu Ala Glu Ile Val Gln Gln Ala Pro Pro Ser
Tyr Gly Gln Leu Ile Ala Gln Gly Ala Ile Pro Pro Val Glu Asp
Phe Pro Thr Glu Asn Pro Asn Asp Asn Ser Val Leu Gly Asn Leu
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Arg Ser Leu Leu Gln Ile Leu Arg Gln Asp Met Thr Pro Gly Gly
Gly Pro Gly Ala Arg Arg Gln Arg Gly Arg Leu Met Arg Arg
Leu Val Arg Arg Leu Arg Arg Trp Gly Leu Leu Pro Arg Thr Asn
                                     565
                 560
Thr Pro Ala Arg Ala Ser Glu Ala Arg Ser Gln Val Thr Pro Ser
                                     580
Ala Ala Pro Leu Glu Ala Leu Asp Gly Gly Thr Gly Pro Ala Arg
Glu Gly Gly Ala Val Gly Gly Gln Asp Gly Glu Gln Ala Pro Pro
                                     610
Leu Pro Ile Lys Ala Pro Leu Pro Ser Ala Ser Thr Ser Pro Ala
Pro Thr Thr Val Pro Glu Ala Pro Gly Pro Leu Pro Ser Leu Pro
                                     640
Leu Glu Pro Ser Leu Leu Ser Gly Val Val Gln Ala Leu Arg Gly
                 650
Arg Leu Leu Pro Ser Leu Gly Pro Pro Gly Pro Thr Arg Ser Pro
                 665
                                     670
Pro Gly Pro His Thr Ala Val Leu Ala Leu Glu Asp Glu Asp Asp
                 680
Val Leu Leu Val Pro Leu Ala Glu Pro Gly Val Trp Val Ala Glu
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                                                         705
                 695
Ala Glu Asp Glu Pro Leu Leu Thr
                 710
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<211> 20
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<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

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<220>
<223> Synthetic oligonucleotide probe
<400> 185
gcaaggtcat tacagctg 18
<210> 186
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 186
 agaacatagg agcagtccca ctc 23
<210> 187
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 187
 tgcctgctgc tgcacaatct cag 23
<210> 188
<211> 45
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 188
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<211> 663
<212> DNA
<213> Homo sapiens
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 gctatcgctt cgcagaacct actcaggcag ccagctgaga agagttgagg 100
 gaaagtgctg ctgctgggtc tgcagacgcg atggataacg tgcagccgaa 150
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aataaaacat cgccccttct gcttcagtgt gaaaggccac gtgaagatgc 200
tgcggctggc actaactgtg acatctatga cctttttat catcgcacaa 250
gcccctgaac catatattgt tatcactgga tttgaagtca ccgttatctt 300
attttcata cttttatatg tactcagact tgatcgatta atgaagtggt 350
tattttggcc tttgcttgat attatcaact cactggtaac aacagtattc 400
atgctcatcg tatctgtgtt ggcactgata ccagaaacca caacattgac 450
agttggtgga ggggtgtttg cacttgtgac agcagtatgc tgtcttgccg 500
acggggccct tatttaccgg aagcttctgt tcaatcccag cggtccttac 550
cagaaaaagc ctgtgcatga aaaaaaagaa gttttgtaat tttatattac 600
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aaaaaaaaaaa aaa 663

<210> 190 <211> 152

<212> PRT

<213> Homo sapiens

<400> 190

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Ser Val Lys Gly His Val Lys Met Leu Arg Leu Ala Leu Thr Val 20 25 30

Thr Ser Met Thr Phe Phe Ile Ile Ala Gln Ala Pro Glu Pro Tyr 35 40 45

Ile Val Ile Thr Gly Phe Glu Val Thr Val Ile Leu Phe Phe Ile 50 55 60

Leu Leu Tyr Val Leu Arg Leu Asp Arg Leu Met Lys Trp Leu Phe 65 70 75

Trp Pro Leu Leu Asp Ile Ile Asn Ser Leu Val Thr Thr Val Phe 80 85 90

Met Leu Ile Val Ser Val Leu Ala Leu Ile Pro Glu Thr Thr 95 100 105

Leu Thr Val Gly Gly Gly Val Phe Ala Leu Val Thr Ala Val Cys 110 115 120

Cys Leu Ala Asp Gly Ala Leu Ile Tyr Arg Lys Leu Leu Phe Asn 125 130 135

Pro Ser Gly Pro Tyr Gln Lys Lys Pro Val His Glu Lys Lys Glu 140 145 150 Val Leu

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<212> DNA
<213> Homo sapiens
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<221> unsure
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<223> unknown base
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 ctgctgctgq gtctgcagac gcgatggata acgtgcagcc gaaaataaaa 150
 categoecet tetgetteag tgtgaaagge caegtgaaga tgetgegget 200
 ggcactaact gngacatcta tgaccttttt tatnatcgca caagcccctg 250
 aaccatatat tgttatcact ggatttgaag tcaccgttat cttatttttc 300
 atacttttat atgtactcag acttgatcga ttaatgaagt ggttattttg 350
 gcctttgctt gatattatca actcactggt aacaacagta ttcatgctca 400
 tcgtatctgt gttggcactg ataccagaaa ccacaacatt gacagttggt 450
 ggaggggtgt ttgcacttgt gacagcagta tgctgtnttg ccgac 495
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<223> Synthetic oligonucleotide probe
<400> 192
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<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 193
cctccaccaa ctgtcaatgt tgtgg 25
<210> 194
<211> 40
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<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 194
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<210> 195
<211> 1879
<212> DNA
<213> Homo sapien
<400> 195
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 cactggcccg ggcgctgctg ctgcctctgc tggcccagtg gctcctgcgc 150
 gccgccccgg agctggcccc cgcgcccttc acgctgcccc tccgggtggc 200
 cgcggccacg aaccgcgtag ttgcgcccac cccgggaccc gggacccctg 250
 ccgagcgcca cgccgacggc ttggcgctcg ccctggagcc tgccctggcg 300
 teccegegg gegeegecaa ettettggee atggtagaea acetgeaggg 350
 ggactctggc cgcggctact acctggagat gctgatcggg acccccccgc 400
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 ggaaccccgc actcctacat agacacgtac tttgacacag agaggtctag 500
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 aatacttctt ttcttgtcaa cattgccact atttttgaat cagagaattt 650
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<210> 196

<211> 518

<212> PRT

<213> Homo sapien

<400> 196

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Trp Leu Leu Arg Ala Ala Pro Glu Leu Ala Pro Ala Pro Phe Thr 20 25 30

Leu Pro Leu Arg Val Ala Ala Ala Thr Asn Arg Val Val Ala Pro 35 40 45

Thr Pro Gly Pro Gly Thr Pro Ala Glu Arg His Ala Asp Gly Leu
50 55 60

Ala Leu Ala Leu Glu Pro Ala Leu Ala Ser Pro Ala Gly Ala Ala 65 70 75

Asn Phe Leu Ala Met Val Asp Asn Leu Gln Gly Asp Ser Gly Arg 80 85 90

Gly Tyr Tyr Leu Glu Met Leu Ile Gly Thr Pro Pro Gln Lys Leu 95 100 105

Gln Ile Leu Val Asp Thr Gly Ser Ser Asn Phe Ala Val Ala Gly Thr Pro His Ser Tyr Ile Asp Thr Tyr Phe Asp Thr Glu Arg Ser 135 Ser Thr Tyr Arg Ser Lys Gly Phe Asp Val Thr Val Lys Tyr Thr Gln Gly Ser Trp Thr Gly Phe Val Gly Glu Asp Leu Val Thr Ile Pro Lys Gly Phe Asn Thr Ser Phe Leu Val Asn Ile Ala Thr Ile 170 Phe Glu Ser Glu Asn Phe Phe Leu Pro Gly Ile Lys Trp Asn Gly 185 Ile Leu Gly Leu Ala Tyr Ala Thr Leu Ala Lys Pro Ser Ser Ser 200 Leu Glu Thr Phe Phe Asp Ser Leu Val Thr Gln Ala Asn Ile Pro 220 215 Asn Val Phe Ser Met Gln Met Cys Gly Ala Gly Leu Pro Val Ala Gly Ser Gly Thr Asn Gly Gly Ser Leu Val Leu Gly Gly Ile Glu Pro Ser Leu Tyr Lys Gly Asp Ile Trp Tyr Thr Pro Ile Lys Glu 265 260 Glu Trp Tyr Tyr Gln Ile Glu Ile Leu Lys Leu Glu Ile Gly Gly 280 Gln Ser Leu Asn Leu Asp Cys Arg Glu Tyr Asn Ala Asp Lys Ala 290 Ile Val Asp Ser Gly Thr Thr Leu Leu Arg Leu Pro Gln Lys Val 310 Phe Asp Ala Val Val Glu Ala Val Ala Arg Ala Ser Leu Ile Pro Glu Phe Ser Asp Gly Phe Trp Thr Gly Ser Gln Leu Ala Cys Trp 335 Thr Asn Ser Glu Thr Pro Trp Ser Tyr Phe Pro Lys Ile Ser Ile 350 Tyr Leu Arg Asp Glu Asn Ser Ser Arg Ser Phe Arg Ile Thr Ile 370 Leu Pro Gln Leu Tyr Ile Gln Pro Met Met Gly Ala Gly Leu Asn 385 380 Tyr Glu Cys Tyr Arg Phe Gly Ile Ser Pro Ser Thr Asn Ala Leu

				395					400					405
Val 1	Ile	Gly	Ala	Thr 410	Val	Met	Glu	Gly	Phe 415	Tyr	Val	Ile	Phe	Asp 420
Arg A	Ala	Gln	Lys	Arg 425	Val	Gly	Phe	Ala	Ala 430	Ser	Pro	Cys	Ala	Glu 435
Ile A	Ala	Gly	Ala	Ala 440	Val	Ser	Glu	Ile	Ser 445	Gly	Pro	Phe	Ser	Thr 450
Glu <i>I</i>	Asp	Val	Ala	Ser 455	Asn	Cys	Val	Pro	Ala 460	Gln	Ser	Leu	Ser	Glu 465
Pro I	Ile	Leu	Trp	Ile 470	Val	Ser	Tyr	Ala	Leu 475	Met	Ser	Val	Cys	Gly 480
Ala I	Ile	Leu	Leu	Val 485	Leu	Ile	Val	Leu	Leu 490	Leu	Leu	Pro	Phe	Arg 495
Cys (Gln	Arg	Arg	Pro 500	Arg	Asp	Pro	Glu	Val 505	Val	Asn	Asp	Glu	Ser 510
Ser 1	Leu	Val	Arg	His 515	Arg	Trp	Lys							
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<220> <223> Synthetic oligonucleotide probe														
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<210> 198 <211> 19 <212> DNA <213> Artificial Sequence														
<220> <223> Synthetic oligonucleotide probe														
<400> 198 ggaaattgga ggccaaagc 19														
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<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
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<210> 201
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<400> 201
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<213> Homo sapiens

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gggcgggagc	cgggaggcgc	ggccggcatg	gaggcgctgc	tgctgggcgc	150
ggggttgctg	ctgggcgctt	acgtgcttgt	ctactacaac	ctggtgaagg	200
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cggctgcctt	cgacctccgc	caggagagtg	ggaacaatga	ggtcatcttc	400
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aaccatatcg	gtccctttct	gctgacacat	ctgctgctgc	cttgcctgaa	600
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ggggacgtct	tgacttcaaa	cgcctggacc	gcccagtggt	gggctggcgg	700
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Ser Gly Ile Gly Lys Met Thr Ala Leu Glu Leu Ala Arg Arg Gly

Ala Arg Val Val Leu Ala Cys Arg Ser Gln Glu Arg Gly Glu Ala

Ala Ala Phe Asp Leu Arg Gln Glu Ser Gly Asn Asn Glu Val Ile

Phe Met Ala Leu Asp Leu Ala Ser Leu Ala Ser Val Arg Ala Phe

Ala Thr Ala Phe Leu Ser Ser Glu Pro Arg Leu Asp Ile Leu Ile 120 110

His Asn Ala Gly Ile Ser Ser Cys Gly Arg Thr Arg Glu Ala Phe 130 125

Asn Leu Leu Arg Val Asn His Ile Gly Pro Phe Leu Leu Thr 140

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Lys Arg Leu Asp Arg Pro Val Val Gly Trp Arg Gln Glu Leu Arg
Ala Tyr Ala Asp Thr Lys Leu Ala Asn Val Leu Phe Ala Arg Glu
Leu Ala Asn Gln Leu Glu Ala Thr Gly Val Thr Cys Tyr Ala Ala
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His Pro Gly Pro Val Asn Ser Glu Leu Phe Leu Arg His Val Pro
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Gly Trp Leu Arg Pro Leu Leu Arg Pro Leu Ala Trp Leu Val Leu
Arg Ala Pro Arg Gly Gly Ala Gln Thr Pro Leu Tyr Cys Ala Leu
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Gln Glu Gly Ile Glu Pro Leu Ser Gly Arg Tyr Phe Ala Asn Cys
His Val Glu Glu Val Pro Pro Ala Ala Arg Asp Asp Arg Ala Ala
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His Arg Leu Trp Glu Ala Ser Lys Arg Leu Ala Gly Leu Gly Pro
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Gly Glu Asp Ala Glu Pro Asp Glu Asp Pro Gln Ser Glu Asp Ser
                                     325
Glu Ala Pro Ser Ser Leu Ser Thr Pro His Pro Glu Glu Pro Thr
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Val Ser Gln Pro Tyr Pro Ser Pro Gln Ser Ser Pro Asp Leu Ser
Lys Met Thr His Arg Ile Gln Ala Lys Val Glu Pro Glu Ile Gln
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Cys Gln Ala Ser Gly Gln Pro Pro Pro Thr Ile Arg Trp Leu Leu 35 40 45

Asn Gly Gln Pro Leu Ser Met Val Pro Pro Asp Pro His His Leu
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Leu Pro Asp Gly Thr Leu Leu Leu Leu Gln Pro Pro Ala Arg Gly 65 70 75

His Ala His Asp Gly Gln Ala Leu Ser Thr Asp Leu Gly Val Tyr 80 85 90

Thr Cys Glu Ala Ser Asn Arg Leu Gly Thr Ala Val Ser Arg Gly 95 100 105

Ala Arg Leu Ser Val Ala Val Leu Arg Glu Asp Phe Gln Ile Gln 110 115 120

Pro Arg Asp Met Val Ala Val Val Gly Glu Gln Phe Thr Leu Glu 125 130 135

Cys Gly Pro Pro Trp Gly His Pro Glu Pro Thr Val Ser Trp Trp 140 145 150

Lys Asp Gly Lys Pro Leu Ala Leu Gln Pro Gly Arg His Thr Val 155 160 165

Ser Gly Gly Ser Leu Leu Met Ala Arg Ala Glu Lys Ser Asp Glu 170 175 180

Gly Thr Tyr Met Cys Val Ala Thr Asn Ser Ala Gly His Arg Glu

Ser Arg Ala Ala Arg Val Ser Ile Gln Glu Pro Gln Asp Tyr Thr 200 205 210

Glu Pro Val Glu Leu Leu Ala Val Arg Ile Gln Leu Glu Asn Val 215 220 225

Thr Leu Leu Asn Pro Asp Pro Ala Glu Gly Pro Lys Pro Arg Pro 230 235 240

Ala Val Trp Leu Ser Trp Lys Val Ser Gly Pro Ala Ala Pro Ala Gln Ser Tyr Thr Ala Leu Phe Arg Thr Gln Thr Ala Pro Gly Gly 270 265 260 Gln Gly Ala Pro Trp Ala Glu Glu Leu Leu Ala Gly Trp Gln Ser 275 Ala Glu Leu Gly Gly Leu His Trp Gly Gln Asp Tyr Glu Phe Lys 300 Val Arg Pro Ser Ser Gly Arg Ala Arg Gly Pro Asp Ser Asn Val Leu Leu Leu Arg Leu Pro Glu Lys Val Pro Ser Ala Pro Pro Gln 330 320 Glu Val Thr Leu Lys Pro Gly Asn Gly Thr Val Phe Val Ser Trp Val Pro Pro Pro Ala Glu Asn His Asn Gly Ile Ile Arg Gly Tyr 350 Gln Val Trp Ser Leu Gly Asn Thr Ser Leu Pro Pro Ala Asn Trp Thr Val Val Gly Glu Gln Thr Gln Leu Glu Ile Ala Thr His Met 380 Pro Gly Ser Tyr Cys Val Gln Val Ala Ala Val Thr Gly Ala Gly Ala Gly Glu Pro Ser Arg Pro Val Cys Leu Leu Glu Gln Ala Met Glu Arg Ala Thr Gln Glu Pro Ser Glu His Gly Pro Trp Thr Leu Glu Gln Leu Arg Ala Thr Leu Lys Arg Pro Glu Val Ile Ala Thr Cys Gly Val Ala Leu Trp Leu Leu Leu Gly Thr Ala Val Cys Ile His Arg Arg Arg Ala Arg Val His Leu Gly Pro Gly 475 Leu Tyr Arg Tyr Thr Ser Glu Asp Ala Ile Leu Lys His Arg Met 485 Asp His Ser Asp Ser Gln Trp Leu Ala Asp Thr Trp Arg Ser Thr 510 500 Ser Gly Ser Arg Asp Leu Ser Ser Ser Ser Ser Leu Ser Ser Arg 515 Leu Gly Ala Asp Ala Arg Asp Pro Leu Asp Cys Arg Arg Ser Leu

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Thr Ser Thr Ph	e Tyr Gly 560	Ser Leu 1	Ile Ala 565	Glu Leu	Pro Ser	Ser 570
Thr Pro Ala Ar	g Pro Ser 575	Pro Gln V	Val Pro 580	Ala Val	Arg Arg	Leu 585
Pro Pro Gln Le	u Ala Gln 590	Leu Ser S	Ser Pro 595	Cys Ser	Ser Ser	Asp 600
Ser Leu Cys Se	r Arg Arg 605	Gly Leu S	Ser Ser 610	Pro Arg	Leu Ser	Leu 615
Ala Pro Ala Gl	u Ala Trp 620	Lys Ala I	Lys Lys 625	Lys Gln	Glu Leu	Gln 630
His Ala Asn Se	er Ser Pro 635	Leu Leu l	Arg Gly 640	Ser His	Ser Leu	Glu 645
Leu Arg Ala Cy	rs Glu Leu 650	Gly Asn	Arg Gly 655	Ser Lys	Asn Leu	Ser 660
Gln Ser Pro G	y Ala Val 665	Pro Gln	Ala Leu 670	Val Ala	Trp Arg	Ala 675
Leu Gly Pro Ly	s Leu Leu 680	Ser Ser	Ser Asn 685	Glu Leu	Val Thr	Arg 690
His Leu Pro P	co Ala Pro 695	Leu Phe	Pro His 700	Glu Thr	Pro Pro	Thr 705
Gln Ser Gln G	In Thr Gln 710	Pro Pro	Val Ala 715	Pro Gln	Ala Pro	Ser 720
Ser Ile Leu L	eu Pro Ala 725	Ala Pro	Ile Pro 730	Ile Leu	Ser Pro	Cys 735
Ser Pro Pro S	er Pro Gln 740	Ala Ser	Ser Leu 745	Ser Gly	Pro Ser	Pro 750
Ala Ser Ser A	rg Leu Ser 755	Ser Ser	Ser Leu 760	Ser Ser	Leu Gly	Glu 765
Asp Gln Asp S	er Val Leu 770	Thr Pro	Glu Glu 775	Val Ala	Leu Cys	Leu 780
Glu Leu Ser G	lu Gly Glu 785	Glu Thr	Pro Arg 790	Asn Ser	Val Ser	Pro 795
Met Pro Arg A	la Pro Ser 800	Pro Pro	Thr Thr 805	Tyr Gly	Tyr Ile	ser 810
Val Pro Thr A	la Ser Glu 815	Phe Thr	Asp Met 820	Gly Arg	Thr Gly	Gly 825

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Cys Leu Thr Pro Thr Pro Ser Glu Gly Ser Leu Ala Asn Gly Trp
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Val Ser Ser Ser Asp Gly Ser Phe Leu Ala Asp Ala His Phe Ala
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Arg Ala Leu Ala Val Ala Val Asp Ser Phe Gly Phe Gly Leu Glu
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Pro Arg Glu Ala Asp Cys Val Phe Ile Asp Ala Ser Ser Pro Pro
                 905
Ser Pro Arg Asp Glu Ile Phe Leu Thr Pro Asn Leu Ser Leu Pro
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Leu Trp Glu Trp Arg Pro Asp Trp Leu Glu Asp Met Glu Val Ser
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His Thr Gln Arg Leu Gly Arg Gly Met Pro Pro Trp Pro Pro Asp
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Asp Thr Val Ser Leu Gln Cys Thr Tyr Arg Glu Glu Leu Arg Asp 35 40 45

His Arg Lys Tyr Trp Cys Arg Lys Gly Gly Ile Leu Phe Ser Arg
50 55 60

Cys Ser Gly Thr Ile Tyr Ala Glu Glu Glu Gly Gln Glu Thr Met 65 70 75

Lys Gly Arg Val Ser Ile Arg Asp Ser Arg Gln Glu Leu Ser Leu 80 85 90

Ile Val Thr Leu Trp Asn Leu Thr Leu Gln Asp Ala Gly Glu Tyr 95 100 105

Trp Cys Gly Val Glu Lys Arg Gly Pro Asp Glu Ser Leu Leu Ile 110 115 120

Ser Leu Phe Val Phe Pro Gly Pro Cys Cys Pro Pro Ser Pro Ser 125 130 135

Pro Thr Phe Gln Pro Leu Ala Thr Thr Arg Leu Gln Pro Lys Ala 140 145 150

Lys Ala Gln Gln Thr Gln Pro Pro Gly Leu Thr Ser Pro Gly Leu 155 160 165

Tyr Pro Ala Ala Thr Thr Ala Lys Gln Gly Lys Thr Gly Ala Glu 170 175 180

Ala Pro Pro Leu Pro Gly Thr Ser Gln Tyr Gly His Glu Arg Thr 185 190 195

Ser Gln Tyr Thr Gly Thr Ser Pro His Pro Ala Thr Ser Pro Pro

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 tgccttgctt atttcacaag cggtttcaac gcagctgctt tggactacga 600
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 ggtgcagcaa cctcaccccg aacgtcccca acgtgtgccg gatgtactgc 700
 tcagatttgt tgaatcctaa tctcaaggat accgttatct gtgccatgaa 750
 gataacccaa gagcctcagg gtctgggtta ctgggaggcc tggaggcatc 800
 actgccaggg aaaagacctc actgaatggg tggatggctg tgacttctag 850
 gatggacgga accatgcaca gcaggctggg aaatgtggtt tggttcctga 900
 cctaggcttg ggaagacaag ccagcgaata aaggatggtt gaacgtgaaa 950
<210> 221
<211> 146
<212> PRT
<213> Homo sapiens
<400> 221
 Met Leu Leu Ala Leu Val Cys Leu Leu Ser Cys Leu Leu Pro Ser
   1
 Ser Glu Ala Lys Leu Tyr Gly Arg Cys Glu Leu Ala Arg Val Leu
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20

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His Asp Phe Gly Leu Asp Gly Tyr Arg Gly Tyr Ser Leu Ala Asp
Trp Val Cys Leu Ala Tyr Phe Thr Ser Gly Phe Asn Ala Ala Ala
Leu Asp Tyr Glu Ala Asp Gly Ser Thr Asn Asn Gly Ile Phe Gln
Ile Asn Ser Arg Arg Trp Cys Ser Asn Leu Thr Pro Asn Val Pro
Asn Val Cys Arg Met Tyr Cys Ser Asp Leu Leu Asn Pro Asn Leu
Lys Asp Thr Val Ile Cys Ala Met Lys Ile Thr Gln Glu Pro Gln
Gly Leu Gly Tyr Trp Glu Ala Trp Arg His His Cys Gln Gly Lys
                                     130
Asp Leu Thr Glu Trp Val Asp Gly Cys Asp Phe
                 140
<210> 222
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 222
 gggatcatgt tgttggccct ggtc 24
<210> 223
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 223
 gcaaggcaga cccagtcagc cag 23
<210> 224
<211> 45
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 224
 ctgcctgcta ccctccaagt gaggccaagc tctacggtcg ttgtg 45
<210> 225
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<211> 2049 <212> DNA <213> Homo sapiens

<400> 225 agccgctgcc ccgggccggg cgcccgcggc ggcaccatga gtccccgctc 50 gtgcctgcgt tcgctgcgcc tcctcgtctt cgccgtcttc tcagccgccg 100 cgagcaactg gctgtacctg gccaagctgt cgtcggtggg gagcatctca 150 gaggaggaga cgtgcgagaa actcaagggc ctgatccaga ggcaggtgca 200 gatgtgcaag cggaacctgg aagtcatgga ctcggtgcgc cgcggtgccc 250 agctggccat tgaggagtgc cagtaccagt tccggaaccg gcgctggaac 300 tgctccacac tcgactcctt gcccgtcttc ggcaaggtgg tgacgcaagg 350 gactcgggag gcggccttcg tgtacgccat ctcttcggca ggtgtggcct 400 ttgcagtgac gcgggcgtgc agcagtgggg agctggagaa gtgcggctgt 450 gacaggacag tgcatggggt cagcccacag ggcttccagt ggtcaggatg 500 ctctgacaac atcgcctacg gtgtggcctt ctcacagtcg tttgtggatg 550 tgcgggagag aagcaagggg gcctcgtcca gcagagccct catgaacctc 600 cacaacaatg aggccggcag gaaggccatc ctgacacaca tgcgggtgga 650 atgcaagtgc cacggggtgt caggctcctg tgaggtaaag acgtgctggc 700 gagecgtgcc gecetteege eaggtgggte aegeaetgaa ggagaagttt 750 gatggtgcca ctgaggtgga gccacgccgc gtgggctcct ccagggcact 800 ggtaccacgc aacgcacagt tcaagccgca cacagatgag gacctggtgt 850 acttggagcc tagccccgac ttctgtgagc aggacatgcg cagcggcgtg 900 ctgggcacga ggggccgcac atgcaacaag acgtccaagg ccatcgacgg 950 ctgtgagctg ctgtgctgtg gccgcggctt ccacacggcg caggtggagc 1000 tggctgaacg ctgcagctgc aaattccact ggtgctgctt cgtcaagtgc 1050 cggcagtgcc agcggctcgt ggagttgcac acgtgccgat gaccgcctgc 1100 ctagccctgc gccggcaacc acctagtggc ccagggaagg ccgataattt 1150 aaacagtctc ccaccaccta ccccaagaga tactggttgt attttttgtt 1200 ctggtttggt ttttgggtcc tcatgttatt tattgccgaa accaggcagg 1250 caaccccaag ggcaccaacc agggcctccc caaagcctgg gcctttgtgg 1300 ctgccactga ccaaagggac cttgctcgtg ccgctggctg cccgcatgtg 1350

<210> 226

<211> 351

<212> PRT

<213> Homo sapiens

<400> 226

Met Ser Pro Arg Ser Cys Leu Arg Ser Leu Arg Leu Leu Val Phe
1 5 10 15

Ala Val Phe Ser Ala Ala Ala Ser Asn Trp Leu Tyr Leu Ala Lys 20 25 30

Leu Ser Ser Val Gly Ser Ile Ser Glu Glu Glu Thr Cys Glu Lys 35 40 45

Leu Lys Gly Leu Ile Gln Arg Gln Val Gln Met Cys Lys Arg Asn
50 55 60

Leu Glu Val Met Asp Ser Val Arg Arg Gly Ala Gln Leu Ala Ile $65 \hspace{1.5cm} 70 \hspace{1.5cm} 75$

Glu Glu Cys Gln Tyr Gln Phe Arg Asn Arg Arg Trp Asn Cys Ser 80 85 90

Thr Leu Asp Ser Leu Pro Val Phe Gly Lys Val Val Thr Gln Gly 95 100 105

Thr Arg Glu Ala Ala Phe Val Tyr Ala Ile Ser Ser Ala Gly Val

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Ala Phe Ala Val Thr Arg Ala Cys Ser Ser Gly Glu Leu Glu Lys
Cys Gly Cys Asp Arg Thr Val His Gly Val Ser Pro Gln Gly Phe
                                    145
                140
Gln Trp Ser Gly Cys Ser Asp Asn Ile Ala Tyr Gly Val Ala Phe
Ser Gln Ser Phe Val Asp Val Arg Glu Arg Ser Lys Gly Ala Ser
                                                        180
                170
Ser Ser Arg Ala Leu Met Asn Leu His Asn Asn Glu Ala Gly Arg
Lys Ala Ile Leu Thr His Met Arg Val Glu Cys Lys Cys His Gly
                200
Val Ser Gly Ser Cys Glu Val Lys Thr Cys Trp Arg Ala Val Pro
Pro Phe Arg Gln Val Gly His Ala Leu Lys Glu Lys Phe Asp Gly
Ala Thr Glu Val Glu Pro Arg Arg Val Gly Ser Ser Arg Ala Leu
Val Pro Arg Asn Ala Gln Phe Lys Pro His Thr Asp Glu Asp Leu
                260
Val Tyr Leu Glu Pro Ser Pro Asp Phe Cys Glu Gln Asp Met Arg
Ser Gly Val Leu Gly Thr Arg Gly Arg Thr Cys Asn Lys Thr Ser
Lys Ala Ile Asp Gly Cys Glu Leu Leu Cys Cys Gly Arg Gly Phe
His Thr Ala Gln Val Glu Leu Ala Glu Arg Cys Ser Cys Lys Phe
His Trp Cys Cys Phe Val Lys Cys Arg Gln Cys Gln Arg Leu Val
                                     340
Glu Leu His Thr Cys Arg
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<210> 227

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 227

gctgcagctg caaattccac tgg 23

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<210> 228
<211> 28
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 228
tggtgggaga ctgtttaaat tatcggcc 28
<210> 229
<211> 41
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 229
 tgcttcgtca agtgccggca gtgccagcgg ctcgtggagt t 41
<210> 230
<211> 1355
<212> DNA
<213> Homo sapiens
<400> 230
 cggacgcgtg ggcggacgcg tgggcggacg cgtgggcgga cgcgtgggct 50
 gggtgcctgc atcgccatgg acaccaccag gtacagcaag tggggcggca 100
 gctccgagga ggtccccgga gggccctggg gacgctgggt gcactggagc 150
 aggagacccc tcttcttggc cctggctgtc ctggtcacca cagtcctttg 200
 ggctgtgatt ctgagtatcc tattgtccaa ggcctccacg gagcgcgcgg 250
 cgctgcttga cggccacgac ctgctgagga caaacgcctc gaagcagacg 300
 geggegetgg gtgeeetgaa ggaggaggte ggagaetgee acagetgetg 350
 ctcggggacg caggcgcagc tgcagaccac gcgcgcggag cttggggagg 400
 cgcaggcgaa gctgatggag caggagagcg ccctgcggga actgcgtgag 450
 cgcgtgaccc agggcttggc tgaagccggc aggggccgtg aggacgtccg 500
 cactgagctg ttccgggcgc tggaggccgt gaggctccag aacaactcct 550
 gcgagccgtg ccccacgtcg tggctgtcct tcgagggctc ctgctacttt 600
 ttctctgtgc caaagacgac gtgggcggcg gcgcaggatc actgcgcaga 650
 tgccagcgcg cacctggtga tcgttggggg cctggatgag cagggcttcc 700
 tcactcggaa cacgcgtggc cgtggttact ggctgggcct gagggctgtg 750
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cagetteage geaaggttea gggetaceag tgggtggaeg gagtetetet 800
cagetteage caetggaace agggagagee caatgaeget tgggggegeg 850
agaactgtgt catgatgetg cacacgggge tgtggaacga egeacegtgt 900
gacagegaga aggaeggetg gatetgtgag aaaaggeaca actgetgaee 950
cegeceagtg eeetggagee gegeeeattg eageatgteg tateetgggg 1000
getgeteace teeetggete etggagetga ttgeeaaaga gttttttet 1050
teeteateea eegetgetga gteteagaaa eacttggeee aacatageee 1100
tgteeageee agtgeetggg etetgggaee teeatgeega eeteateeta 1150
acteeactea egeagaeeea acetaacete eactagetee aaaateeetg 1200
eteetggte eeegtgatat geeteeactt eteteeetaa eeaaggttag 1250
gtgaetgagg actggagetg tttggttte tegeattte eaceaaactg 1300
gaagetgtt ttgeageetg aggaageate aataaatat tgagaaatga 1350
aaaaa 1355

<210> 231

<211> 293

<212> PRT

<213> Homo sapiens

<400> 231

Met Asp Thr Thr Arg Tyr Ser Lys Trp Gly Gly Ser Ser Glu Glu
1 5 10 15

Val Pro Gly Gly Pro Trp Gly Arg Trp Val His Trp Ser Arg Arg 20 25 30

Pro Leu Phe Leu Ala Leu Ala Val Leu Val Thr Thr Val Leu Trp
35 40 45

Ala Val Ile Leu Ser Ile Leu Leu Ser Lys Ala Ser Thr Glu Arg
50 55 60

Ala Ala Leu Leu Asp Gly His Asp Leu Leu Arg Thr Asn Ala Ser 65 70 75

Lys Gln Thr Ala Ala Leu Gly Ala Leu Lys Glu Glu Val Gly Asp 80 85 90

Cys His Ser Cys Cys Ser Gly Thr Gln Ala Gln Leu Gln Thr Thr 95 100 105

Arg Ala Glu Leu Gly Glu Ala Gln Ala Lys Leu Met Glu Gln Glu 110 115 120

Ser Ala Leu Arg Glu Leu Arg Glu Arg Val Thr Gln Gly Leu Ala 125 130 135

<212> DNA

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Glu Ala Gly Arg Gly Arg Glu Asp Val Arg Thr Glu Leu Phe Arg
                140
Ala Leu Glu Ala Val Arg Leu Gln Asn Asn Ser Cys Glu Pro Cys
                                                         165
                155
Pro Thr Ser Trp Leu Ser Phe Glu Gly Ser Cys Tyr Phe Phe Ser
Val Pro Lys Thr Thr Trp Ala Ala Ala Gln Asp His Cys Ala Asp
                                                         195
                 185
Ala Ser Ala His Leu Val Ile Val Gly Gly Leu Asp Glu Gln Gly
                 200
Phe Leu Thr Arg Asn Thr Arg Gly Arg Gly Tyr Trp Leu Gly Leu
                 215
Arg Ala Val Arg His Leu Gly Lys Val Gln Gly Tyr Gln Trp Val
                 230
Asp Gly Val Ser Leu Ser Phe Ser His Trp Asn Gln Gly Glu Pro
                 245
Asn Asp Ala Trp Gly Arg Glu Asn Cys Val Met Met Leu His Thr
                 260
Gly Leu Trp Asn Asp Ala Pro Cys Asp Ser Glu Lys Asp Gly Trp
                                      280
Ile Cys Glu Lys Arg His Asn Cys
                 290
<210> 232
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 232
gcgagaactg tgtcatgatg ctgc 24
<210> 233
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 233
 gtttctgaga ctcagcagcg gtgg 24
<210> 234
<211> 50
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<213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 234 caccgtgtga cagcgagaag gacggctgga tctgtgagaa aaggcacaac 50 <210> 235 <211> 1847 <212> DNA <213> Homo sapiens <400> 235 gccaggggaa gagggtgatc cgacccgggg aaggtcgctg ggcagggcga 50 gttgggaaag cggcagcccc cgccgccccc gcagcccctt ctcctcttt 100 ctcccacgtc ctatctgcct ctcgctggag gccaggccgt gcagcatcga 150 agacaggagg aactggagcc tcattggccg gcccggggcg ccggcctcgg 200 gcttaaatag gagctccggg ctctggctgg gacccgaccg ctgccggccg 250 cgctcccgct gctcctgccg ggtgatggaa aaccccagcc cggccgccgc 300 cctgggcaag gccctctgcg ctctcctcct ggccactctc ggcgccgccg 350 gccagcctct tgggggagag tccatctgtt ccgccagagc cccggccaaa 400 tacagcatca ccttcacggg caagtggagc cagacggcct tccccaagca 450 gtaccccctg ttccgccccc ctgcgcagtg gtcttcgctg ctgggggccg 500 cgcatagctc cgactacagc atgtggagga agaaccagta cgtcagtaac 550 qqqctqcqcq actttqcqqa qcqcqqcqaq qcctqqqcqc tqatqaaqqa 600 gatcgaggcg gcgggggagg cgctgcagag cgtgcacgag gtgttttcgg 650 cgcccgccgt ccccagcggc accgggcaga cgtcggcgga gctggaggtg 700 cagegeagge actegetggt etegtttgtg gtgegeateg tgeecagece 750 cgactggttc gtgggcgtgg acagcctgga cctgtgcgac ggggaccgtt 800 ggcgggaaca ggcggcgctg gacctgtacc cctacgacgc cgggacggac 850 ageggettea cetteteete ecceaactte gecaceatee egcaggacae 900 ggtgaccgag ataacgtcct cctctcccag ccacccggcc aactccttct 950 actacccgcg gctgaaggcc ctgcctccca tcgccagggt gacactgctg 1000 cggctgcgac agagccccag ggccttcatc cctcccgccc cagtcctgcc 1050 cagcagggac aatgagattg tagacagcgc ctcagttcca gaaacgccgc 1100

<210> 236

<211> 331

<212> PRT

<213> Homo sapiens

<400> 236

Met Glu Asn Pro Ser Pro Ala Ala Ala Leu Gly Lys Ala Leu Cys
1 5 10 15

Ala Leu Leu Ala Thr Leu Gly Ala Ala Gly Gln Pro Leu Gly
20 25 30

Gly Glu Ser Ile Cys Ser Ala Arg Ala Pro Ala Lys Tyr Ser Ile

Thr Phe Thr Gly Lys Trp Ser Gln Thr Ala Phe Pro Lys Gln Tyr 50 55 60

Pro Leu Phe Arg Pro Pro Ala Gln Trp Ser Ser Leu Leu Gly Ala 65 70 75

Ala His Ser Ser Asp Tyr Ser Met Trp Arg Lys Asn Gln Tyr Val

Ser Asn Gly Leu Arg Asp Phe Ala Glu Arg Gly Glu Ala Trp Ala 95 100 105

Leu Met Lys Glu Ile Glu Ala Ala Gly Glu Ala Leu Gln Ser Val

120 115 110 His Glu Val Phe Ser Ala Pro Ala Val Pro Ser Gly Thr Gly Gln Thr Ser Ala Glu Leu Glu Val Gln Arg Arg His Ser Leu Val Ser 150 140 Phe Val Val Arg Ile Val Pro Ser Pro Asp Trp Phe Val Gly Val 155 Asp Ser Leu Asp Leu Cys Asp Gly Asp Arg Trp Arg Glu Gln Ala Ala Leu Asp Leu Tyr Pro Tyr Asp Ala Gly Thr Asp Ser Gly Phe Thr Phe Ser Ser Pro Asn Phe Ala Thr Ile Pro Gln Asp Thr Val 200 Thr Glu Ile Thr Ser Ser Ser Pro Ser His Pro Ala Asn Ser Phe 215 Tyr Tyr Pro Arg Leu Lys Ala Leu Pro Pro Ile Ala Arg Val Thr 230 Leu Leu Arg Leu Arg Gln Ser Pro Arg Ala Phe Ile Pro Pro Ala Pro Val Leu Pro Ser Arg Asp Asn Glu Ile Val Asp Ser Ala Ser 260 Val Pro Glu Thr Pro Leu Asp Cys Glu Val Ser Leu Trp Ser Ser Trp Gly Leu Cys Gly Gly His Cys Gly Arg Leu Gly Thr Lys Ser Arg Thr Arg Tyr Val Arg Val Gln Pro Ala Asn Asn Gly Ser Pro Cys Pro Glu Leu Glu Glu Glu Ala Glu Cys Val Pro Asp Asn Cys 325 Val

<210> 237

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 237

cagcactgcc aggggaagag gg 22

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<210> 238
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 238
caggactcgc tacgtccg 18
<210> 239
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 239
 cagococtto toctocttto toco 24
<210> 240
<211> 25
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 240
 gcagttatca gggacgcact cagcc 25
<210> 241
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 241
 ccagcgagag gcagatag 18
<210> 242
<211> 23
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 242
 cggtcaccgt gtcctgcggg atg 23
<210> 243
<211> 42
<212> DNA
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<213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 243 cagococtto toctocttto toccaogtoo tatotgooto to 42 <210> 244 <211> 1894 <212> DNA <213> Homo sapiens <400> 244 ggcggcgtcc gtgaggggct cctttgggca ggggtagtgt ttggtgtccc 50 tgtcttgcgt gatattgaca aactgaagct ttcctgcacc actggactta 100 aggaagagtg tactcgtagg cggacagctt tagtggccgg ccggccgctc 150 tcatcccccg taaggagcag agtcctttgt actgaccaag atgagcaaca 200 tctacatcca ggagcctccc acgaatggga aggttttatt gaaaactaca 250 gctggagata ttgacataga gttgtggtcc aaagaagctc ctaaagcttg 300 cagaaatttt atccaacttt gtttggaagc ttattatgac aataccattt 350 ttcatagagt tgtgcctggt ttcatagtcc aaggcggaga tcctactggc 400 acagggagtg gtggagagtc tatctatgga gcgccattca aagatgaatt 450 tcattcacgg ttgcgtttta atcggagagg actggttgcc atggcaaatg 500 ctggttctca tgataatggc agccagtttt tcttcacact gggtcgagca 550 gatgaactta acaataagca taccatcttt ggaaaggtta caggggatac 600 agtatataac atgttgcgac tgtcagaagt agacattgat gatgacgaaa 650 gaccacataa tccacacaaa ataaaaagct gtgaggtttt gtttaatcct 700 tttgatgaca tcattccaag ggaaattaaa aggctgaaaa aagagaaacc 750 agaggaggaa gtaaagaaat tgaaacccaa aggcacaaaa aattttagtt 800 tactttcatt tggagaggaa gctgaggaag aagaggagga agtaaatcga 850 gttagtcaga gcatgaaggg caaaagcaaa agtagtcatg acttgcttaa 900 ggatgatcca catctcagtt ctgttccagt tgtagaaagt gaaaaaggtg 950 atgcaccaga tttagttgat gatggagaag atgaaagtgc agagcatgat 1000 gaatatattg atggtgatga aaagaacctg atgagagaaa gaattgccaa 1050 aaaattaaaa aaggacacaa gtgcgaatgt taaatcagct ggagaaggag 1100 aagtggagaa gaaatcagtc agccgcagtg aagagctcag aaaagaagca 1150 agacaattaa aacgggaact cttagcagca aaacaaaaaa aagtagaaaa 1200 tgcagcaaaa caagcagaaa aaagaagtga agaggaagaa gcccctccag 1250 atggtgctgt tgccgaatac agaagagaaa agcaaaagta tgaagctttg 1300 aggaagcaac agtcaaagaa gggaacttcc cgggaagatc agacccttgc 1350 actgctgaac cagtttaaat ctaaactcac tcaagcaatt gctgaaacac 1400 ctgaaaatga cattcctgaa acagaagtag aagatgatga aggatggatg 1450 tcacatgtac ttcagtttga ggataaaagc agaaaagtga aagatgcaag 1500 catgcaagac tcagatacat ttgaaatcta tgatcctcgg aatccagtga 1550 ataaaagaag gagggaagaa agcaaaaagc tgatgagaga gaaaaaagaa 1600 agaagataaa atgagaataa tgataaccag aacttgctgg aaatgtgcct 1650 acaatggcct tgtaacagcc attgttccca acagcatcac ttaggggtgt 1700 gaaaagaagt atttttgaac ctgttgtctg gttttgaaaa acaattatct 1750 tgttttgcaa attgtggaat gatgtaagca aatgcttttg gttactggta 1800 catgtgtttt ttcctagctg accttttata ttgctaaatc tgaaataaaa 1850

<210> 245

<211> 472

<212> PRT

<213> Homo sapiens

<400> 245

Met Ser Asn Ile Tyr Ile Gln Glu Pro Pro Thr Asn Gly Lys Val 1 5 10

Leu Leu Lys Thr Thr Ala Gly Asp Ile Asp Ile Glu Leu Trp Ser 20 25 30

Lys Glu Ala Pro Lys Ala Cys Arg Asn Phe Ile Gln Leu Cys Leu 35 40 45

Glu Ala Tyr Tyr Asp Asn Thr Ile Phe His Arg Val Val Pro Gly
50 55 60

Phe Ile Val Gln Gly Gly Asp Pro Thr Gly Thr Gly Ser Gly Gly 65 70 75

Glu Ser Ile Tyr Gly Ala Pro Phe Lys Asp Glu Phe His Ser Arg 80 85 90

Leu Arg Phe Asn Arg Arg Gly Leu Val Ala Met Ala Asn Ala Gly 95 100 105

Ser	His	Asp	Asn	Gly 110	Ser	Gln	Phe	Phe	Phe 115	Thr	Leu	Gly	Arg	Ala 120
Asp	Glu	Leu	Asn	Asn 125	Lys	His	Thr	Ile	Phe 130	Gly	Lys	Val	Thr	Gly 135
Asp	Thr	Val	Tyr	Asn 140	Met	Leu	Arg	Leu	Ser 145	Glu	Val	Asp	Ile	Asp 150
Asp	Asp	Glu	Arg	Pro 155	His	Asn	Pro	His	Lys 160	Ile	Lys	Ser	Cys	Glu 165
Val	Leu	Phe	Asn	Pro 170	Phe	Asp	Asp	Ile	Ile 175	Pro	Arg	Glu	Ile	Lys 180
Arg	Leu	Lys	Lys	Glu 185	Lys	Pro	Glu	Glu	Glu 190	Val	Lys	Lys	Leu	Lys 195
Pro	Lys	Gly	Thr	Lys 200	Asn	Phe	Ser	Leu	Leu 205	Ser	Phe	Gly	Glu	Glu 210
Ala	Glu	Glu	Glu	Glu 215	Glu	Glu	Val	Asn	Arg 220	Val	Ser	Gln	Ser	Met 225
Lys	Gly	Lys	Ser	Lys 230	Ser	Ser	His	Asp	Leu 235	Leu	Lys	Asp	Asp	Pro 240
His	Leu	Ser	Ser	Val 245	Pro	Val	Val	Glu	Ser 250	Glu	Lys	Gly	Asp	Ala 255
Pro	Asp	Leu	Val	Asp 260	Asp	Gly	Glu	Asp	Glu 265	Ser	Ala	Glu	His	Asp 270
Glu	Tyr	Ile	Asp	Gly 275	Asp	Glu	Lys	Asn	Leu 280	Met	Arg	Glu	Arg	Ile 285
Ala	Lys	Lys	Leu	Lys 290	Lys	Asp	Thr	Ser	Ala 295	Asn	Val	Lys	Ser	Ala 300
Gly	Glu	Gly	Glu	Val 305		Lys	Lys	Ser	Val 310	Ser	: Arg	Ser	Glu	Glu 315
Leu	Arg	Lys	s Glu	Ala 320	Arg	Gln	Leu	Lys	Arg 325	Glu	Leu	Leu	Ala	Ala 330
Lys	Gln	Lys	s Lys	335		Asn	Ala	. Ala	. Lys 340	Gln	a Ala	Glu	Lys	Arg 345
Ser	Glu	ı Glu	ı Glu	350		Pro	Pro	Asp	Gly 355	Ala	a Val	. Ala	ı Glu	360
				365	•				3/0)				375
				380)				385)				390
Gln	Phe	e Ly:	s Sei	c Lys	E Lei	ı Thr	Glr	n Ala	a Ile	ala	a Glu	ı Thi	r Pro	Glu

395 400 405

Asn Asp Ile Pro Glu Thr Glu Val Glu Asp Asp Glu Gly Trp Met 410 415 420

Ser His Val Leu Gln Phe Glu Asp Lys Ser Arg Lys Val Lys Asp 425 430 435

Ala Ser Met Gln Asp Ser Asp Thr Phe Glu Ile Tyr Asp Pro Arg 440 445 450

Asn Pro Val Asn Lys Arg Arg Arg Glu Glu Ser Lys Lys Leu Met 455 460 465

Arg Glu Lys Lys Glu Arg Arg 470

<210> 246

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 246

tgcggagatc ctactggcac aggg 24

<210> 247

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 247

cgagttagtc agagcatg 18

<210> 248

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 248

cagatggtgc tgttgccg 18

<210> 249

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

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<400> 249
caactggaac aggaactgag atgtggatc 29
<210> 250
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 250
ctggttcagc agtgcaaggg tctg 24
<210> 251
<211> 18
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 251
 cctctccgat taaaacgc 18
<210> 252
<211> 45
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
 gagaggactg gttgccatgg caaatgctgg ttctcatgat aatgg 45
<210> 253
<211> 2456
<212> DNA
<213> Homo sapiens
<400> 253
 cgccgccgtt ggggctggaa gttcccgcca ggtccgtgcc gggcgagaga 50
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 catttegeet tgetgaegge gtegageeet ggeeagaeat gteeaeaggg 150
 tteteetteg ggteegggae tetgggetee accaeegtgg eegeeggegg 200
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 cttctgtggg gctcaatttt ggaaatcttg gaagtacttc aactccagca 300
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<212> PRT

<213> Homo sapiens

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Asn Leu Gly Ser Thr Ser Thr Pro Ala Thr Thr Ser Ala Pro Ser 50 55 60

Ser Gly Phe Gly Thr Gly Leu Phe Gly Ser Lys Pro Ala Thr Gly
65 70 75

Phe Thr Leu Gly Gly Thr Asn Thr Gly Ala Leu His Thr Lys Arg

Pro Gln Val Val Thr Lys Tyr Gly Thr Leu Gln Gly Lys Gln Met 95 100 105

His Val Gly Lys Thr Pro Ile Gln Val Phe Leu Gly Val Pro Phe 110 115 120

Ser Arg Pro Pro Leu Gly Ile Leu Arg Phe Ala Pro Pro Glu Pro 125 130 135

Pro	Glu	Pro	Trp	Lys 140	Gly	Ile	Arg	Asp	Ala 145	Thr	Thr	Tyr	Pro	Pro 150
Gly	Trp	Ser	Leu	Ala 155	Leu	Ser	Pro	Gly	Trp 160	Ser	Ala	Val	Ala	Arg 165
Ser	Arg	Leu	Thr	Ala 170	Thr	Ser	Ala	Ser	Arg 175	Val	Gln	Ala	Ser	Leu 180
Leu	Pro	Gln	Pro	Leu 185	Ser	Val	Trp	Gly	Tyr 190	Arg	Cys	Leu	Gln	Glu 195
Ser	Trp	Gly	Gln	Leu 200	Ala	Ser	Met	Tyr	Val 205	Ser	Thr	Arg	Glu	Arg 210
Tyr	Lys	Trp	Leu	Arg 215	Phe	Ser	Glu	Asp	Cys 220	Leu	Tyr	Leu	Asn	Val 225
Tyr	Ala	Pro	Ala	Arg 230	Ala	Pro	Gly	Asp	Pro 235	Gln	Leu	Pro	Val	Met 240
Val	Trp	Phe	Pro	Gly 245	Gly	Ala	Phe	Ile	Val 250	Gly	Ala	Ala	Ser	Ser 255
Tyr	Glu	Gly	Ser	Asp 260	Leu	Ala	Ala	Arg	Glu 265	Lys	Val	Val	Leu	Val 270
Phe	Leu	Gln	His	Arg 275	Leu	Gly	Ile	Phe	Gly 280	Phe	Leu	Ser	Thr	Asp 285
Asp	Ser	His	Ala	Arg 290	Gly	Asn	Trp	Gly	Leu 295	Leu	Asp	Gln	Met	Ala 300
Ala	Leu	Arg	Trp	Val 305	Gln	Glu	Asn	Ile	Ala 310	Ala	Phe	Gly	Gly	Asp 315
Pro	Gly	Asn	Val	Thr 320	Leu	Phe	Gly	Gln	Ser 325	Ala	Gly	Ala	Met	Ser 330
Ile	Ser	Gly	Leu	Met 335		Ser	Pro	Leu	Ala 340	Ser	Gly	Leu	Phe	His 345
Arg	Ala	Ile	Ser	Gln 350		Gly	Thr	Ala	Leu 355	Phe	Arg	Leu	Phe	Ile 360
Thr	Ser	Asn	Pro	Leu 365		Val	Ala	Lys	Lys 370	Val	Ala	His	Leu	Ala 375
Gly	Cys	Asn	His	Asn 380		Thr	Gln	Ile	Leu 385	Val	Asn	Cys	Leu	Arg 390
Ala	Leu	Ser	Gly	Thr 395		Val	Met	Arg	Val 400	Ser	Asn	Lys	Met	Arg 405
Phe	Leu	Gln	Leu	Asn 410		Gln	. Arg	Asp	Pro 415		Glu	Ile	lle	Trp 420
Ser	Met	Ser	Pro	Val	Val	Asp	Gly	v Val	Val	Ile	Pro	Asp	Asp	Pro

				425					430					435
Leu	Val	Leu	Leu	Thr 440	Gln	Gly	Lys	Val	Ser 445	Ser	Val	Pro	Tyr	Leu 450
Leu	Gly	Val	Asn	Asn 455	Leu	Glu	Phe	Asn	Trp 460	Leu	Leu	Pro	Tyr	Asn 465
Ile	Thr	Lys	Glu	Gln 470	Val	Pro	Leu	Val	Val 475	Glu	Glu	Tyr	Leu	Asp 480
Asn	Val	Asn	Glu	His 485	Asp	Trp	Lys	Met	Leu 490	Arg	Asn	Arg	Met	Met 495
Asp	Ile	Val	Gln	Asp 500	Ala	Thr	Phe	Val	Tyr 505	Ala	Thr	Leu	Gln	Thr 510
Ala	His	Tyr	His	Arg 515	Glu	Thr	Pro	Met	Met 520	Gly	Ile	Cys	Pro	Ala 525
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<211> 544

<212> PRT

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Pro Arg Gln Asp Trp Thr Gly Ser Thr Pro Ala Tyr Gly Tyr Trp
50 55 60

Phe Lys Ala Val Thr Glu Thr Thr Lys Gly Ala Pro Val Ala Thr 65 70 75

Asn His Gln Ser Arg Glu Val Glu Met Ser Thr Arg Gly Arg Phe 80 85 90

Gln Leu Thr Gly Asp Pro Ala Lys Gly Asn Cys Ser Leu Val Ile 95 100 105

Arg Asp Ala Gln Met Gln Asp Glu Ser Gln Tyr Phe Phe Arg Val 110 115 120

Glu Arg Gly Ser Tyr Val Thr Tyr Asn Phe Met Asn Asp Gly Phe
125 130 135

Phe Leu Lys Val Thr Val Leu Ser Phe Thr Pro Arg Pro Gln Asp 140 145 150

His Asn Thr Asp Leu Thr Cys His Val Asp Phe Ser Arg Lys Gly
155 160 165

Val Ser Ala Gln Arg Thr Val Arg Leu Arg Val Ala Tyr Ala Pro 170 175 180

Arg Asp Leu Val Ile Ser Ile Ser Arg Asp Asn Thr Pro Ala Leu 185 190 195

Glu Pro Gln Pro Gln Gly Asn Val Pro Tyr Leu Glu Ala Gln Lys 200 205 210

Gly Gln Phe Leu Arg Leu Leu Cys Ala Ala Asp Ser Gln Pro Pro 215 220 225

Ala Thr Leu Ser Trp Val Leu Gln Asn Arg Val Leu Ser Ser Ser 230 235 240

His Pro Trp Gly Pro Arg Pro Leu Gly Leu Glu Leu Pro Gly Val 245 250 255

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Pro	Glu	Asn	Leu	Arg 290	Val	Met	Val	Ser	Gln 295	Ala	Asn	Arg	Thr	Val 300
Leu	Glu	Asn	Leu	Gly 305	Asn	Gly	Thr	Ser	Leu 310	Pro	Val	Leu	Glu	Gly 315
Gln	Ser	Leu	Суз	Leu 320	Val	Cys	Val	Thr	His 325	Ser	Ser	Pro	Pro	Ala 330
Arg	Leu	Ser	Trp	Thr 335	Gln	Arg	Gly	Gln	Val 340	Leu	Ser	Pro	Ser	Gln 345
Pro	Ser	Asp	Pro	Gly 350	Val	Leu	Glu	Leu	Pro 355	Arg	Val	Gln	Val	Glu 360
His	Glu	Gly	Glu	Phe 365	Thr	Cys	His	Ala	Arg 370	His	Pro	Leu	Gly	Ser 375
Gln	His	Val	Ser	Leu 380	Ser	Leu	Ser	Val	His 385	Tyr	Lys	Lys	Gly	Leu 390
Ile	Ser	Thr	Ala	Phe 395	Ser	Asn	Gly	Ala	Phe 400	Leu	Gly	Ile	Gly	Ile 405
Thr	Ala	Leu	Leu	Phe 410	Leu	Cys	Leu	Ala	Leu 415	Ile	Ile	Met	Lys	Ile 420
Leu	Pro	Lys	Arg	Arg 425	Thr	Gln	Thr	Glu	Thr 430	Pro	Arg	Pro	Arg	Phe 435
Ser	Arg	His	Ser	Thr 440		Leu	Asp	Tyr	Ile 445	Asn	Val	Val	Pro	Thr 450
Ala	Gly	Pro	Leu	Ala 455		Lys	Arg	Asn	Gln 460	Lys	Ala	Thr	Pro	Asn 465
Ser	Pro	Arg	Thr	Pro 470		Pro	Pro	Gly	Ala 475	Pro	Ser	Pro	Glu	Ser 480
Lys	Lys	Asn	Gln	Lys 485		Gln	Tyr	Gln	Leu 490	Pro	Ser	Phe	Pro	Glu 495
Pro	Lys	Ser	Ser	Thr 500		Ala	. Pro	Glu	Ser 505	Gln	Glu	. Ser	Gln	Glu 510
Glu	Leu	His	Tyr	Ala 515		Leu	Asn	Phe	Pro 520		Val	Arg	Pro	Arg 525
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<212> PRT

<213> Homo sapiens

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Val Trp Asn Gln Phe Phe Val Pro Glu Glu Met Asn Thr Thr Ser 50 55 60

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Asp	Arg	Glu	Glu	Arg 110	Ser	Leu	Tyr	Ile	Leu 115	Arg	Ala	Gln	Val	Ile 120
Asp	Ile	Ala	Thr	Gly 125	Arg	Ala	Val	Glu	Pro 130	Glu	Ser	Glu	Phe	Val 135
Ile	Lys	Val	Ser	Asp 140	Ile	Asn	Asp	Asn	Glu 145	Pro	Lys	Phe	Leu	Asp 150
Glu	Pro	Tyr	Glu	Ala 155	Ile	Val	Pro	Glu	Met 160	Ser	Pro	Glu	Gly	Thr 165
Leu	Val	Ile	Gln	Val 170	Thr	Ala	Ser	Asp	Ala 175	Asp	Asp	Pro	Ser	Ser 180
Gly	Asn	Asn	Ala	Arg 185	Leu	Leu	Tyr	Ser	Leu 190	Leu	Gln	Gly	Gln	Pro 195
Tyr	Phe	Ser	Val	Glu 200	Pro	Thr	Thr	Gly	Val 205	Ile	Arg	Ile	Ser	Ser 210
Lys	Met	Asp	Arg	Glu 215	Leu	Gln	Asp	Glu	Tyr 220	Trp	Val	Ile	Ile	Gln 225
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Phe	Lys	Glu	Ser	Leu 260	Tyr	Arg	Leu	Thr	Val 265	Ser	Glu	Ser	Ala	Pro 270
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Gly	Glu	Asn	Ala	Glu 290	Met	Asp	Tyr	Ser	Ile 295	Glu	Glu	Asp	Asp	Ser 300
Gln	Thr	Phe	Asp	Ile 305		Thr	Asn	His	Glu 310		Gln	Glu	Gly	Ile 315
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Gly	Ile	Arg	Ala	Lys 335		Lys	Asn	His	His 340	Val	Pro	Glu	Gln	Leu 345
Met	Lys	Tyr	His	Thr	Glu	Ala	Ser	Thr	Thr	Phe	Ile	Lys	Ile	Gln

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Val	Glu	Asp	Val	Asp 365	Glu	Pro	Pro	Leu	Phe 370	Leu	Leu	Pro	Tyr	Tyr 375
Val	Phe	Glu	Val	Phe 380	Glu	Glu	Thr	Pro	Gln 385	Gly	Ser	Phe	Val	Gly 390
Val	Val	Ser	Ala	Thr 395	Asp	Pro	Asp	Asn	Arg 400	Lys	Ser	Pro	Ile	Arg 405
Tyr	Ser	Ile	Thr	Arg 410	Ser	Lys	Val	Phe	Asn 415	Ile	Asn	Asp	Asn	Gly 420
Thr	Ile	Thr	Thr	Ser 425	Asn	Ser	Leu	Asp	Arg 430	Glu	Ile	Ser	Ala	Trp 435
Tyr	Asn	Leu	Ser	Ile 440	Thr	Ala	Thr	Glu	Lys 445	Tyr	Asn	Ile	Glu	Gln 450
Ile	Ser	Ser	Ile	Pro 455	Leu	Tyr	Val	Gln	Val 460	Leu	Asn	Ile	Asn	Asp 465
His	Ala	Pro	Glu	Phe 470	Ser	Gln	Tyr	Tyr	Glu 475	Thr	Tyr	Val	Суз	Glu 480
Asn	Ala	Gly	Ser	Gly 485	Gln	Val.	Ile	Gln	Thr 490	Ile	Ser	Ala	Val	Asp 495
Arg	Asp	Glu	Ser	Ile 500	Glu	Glu	His	His	Phe 505	Tyr	Phe	Asn	Leu	Ser 510
Val	Glu	Asp	Thr	Asn 515	Asn	Ser	Ser	Phe	Thr 520	Ile	Ile	Asp	Asn	Gln 525
Asp	Asn	Thr	Ala	Val 530	Ile	Leu	Thr	Asn	Arg 535	Thr	Gly	Phe	Asn	Leu 540
				545					550					Asn 555
Gly	Ile	Pro	Ser	Leu 560		Ser	Thr	Asn	Thr 565	Leu	Thr	Ile	His	Val 570
Cys	Asp	Cys	Gly	Asp 575		Gly	Ser	Thr	Gln 580	Thr	Cys	Gln	Tyr	Gln 585
Glu	Leu	. Val	. Leu	Ser 590		Gly	Phe	Lys	Thr 595	Glu	. Val	Ile	Ile	Ala 600
Ile	Leu	Ile	cys	11e 605	Met	Ile	Ile	Phe	Gly 610	Phe	· Ile	Phe	Leu	Thr 615
Leu	Gly	Leu	Lys	620		Arg	Lys	Gln	11e 625	Leu	Phe	Pro	Glu	Lys 630
Ser	Glu	Asp	Phe	Arg 635		Asn	. Ile	Phe	Gln 640	Tyr	: Asp	Asp	Glu	Gly 645

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Gly Gly Glu Glu Asp Thr Glu Ala Phe Asp Ile Ala Glu Leu Arg 660

Ser Ser Thr Ile Met Arg Glu Arg Lys Thr Arg Lys Thr Thr Ser 675

Ala Glu Ile Arg Ser Leu Tyr Arg Gln Ser Leu Gln Val Gly Pro 690

Asp Ser Ala Ile Phe Arg Lys Phe Ile Leu Glu Lys Leu Glu Glu 705

Ala Asn Thr Asp Pro Cys Ala Pro Pro Phe Asp Ser Leu Gln Thr 720

Tyr Ala Phe Glu Gly Thr Gly Ser Leu Ala Gly Ser Leu Glu Ser Ser 735

Leu Glu Ser Ala Val Ser Asp Gln Asp Glu Ser Tyr Asp Tyr Leu 750

Asn Glu Leu Gly Pro Arg Phe Lys Arg Leu Ala Cys Met Phe Gly
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Ser Ala Val Gln Ser Asn Asn 770

<210> 265

<211> 349

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 24, 60, 141, 226, 228, 249, 252

<223> unknown base

<400> 265

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<211> 25

<212> DNA

<213> Artificial Sequence

<220>

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<210> 267
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 267
 aagtggtgga agcctccagt gtgg 24
<210> 268
<211> 52
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 268
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 gc 52
<210> 269
<211> 2747
<212> DNA
<213> Homo sapiens
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 cgggcccccg agcgagtcat ggccaacgcg gggctgcagc tgttgggctt 250
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gatgttgtgg ggatccagtg agatagaata catgtaagtg tggttttgta 2650
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<210> 270

<211> 211

<212> PRT

<213> Homo sapiens

<400> 270

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1 5 10 15

Leu Gly Trp Ile Gly Ala Ile Val Ser Thr Ala Leu Pro Gln Trp $20 \\ 25 \\ 30$

Arg Ile Tyr Ser Tyr Ala Gly Asp Asn Ile Val Thr Ala Gln Ala 35 40 45

Met Tyr Glu Gly Leu Trp Met Ser Cys Val Ser Gln Ser Thr Gly 50 55 60

Gln Ile Gln Cys Lys Val Phe Asp Ser Leu Leu Asn Leu Ser Ser
65 70 75

Thr Leu Gln Ala Thr Arg Ala Leu Met Val Val Gly Ile Leu Leu 80 85 90

Gly Val Ile Ala Ile Phe Val Ala Thr Val Gly Met Lys Cys Met

Lys Cys Leu Glu Asp Asp Glu Val Gln Lys Met Arg Met Ala Val 110 115 120

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Val

<210> 271 <211> 564

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 21, 69, 163, 434, 436, 444

<223> unknown base

<400> 271

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<210> 272

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<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 30, 49, 102, 141, 147, 171, 324-325, 339-341
<223> unknown base
<400> 272
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 tccagctgtt gggcttcatt ctccccttcc tgggatggac cggcgcccat 100
 cntcagcact gccctgcccc agtggaggat ttactcctat nccggcnaca 150
 acatcgtgac cgcccaggcc ntgtacgagg ggctgtggat gtcctgcgtg 200
 tcgcagagca ccgggcagat ccagtgcaaa gtctttgact cccttgctga 250
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 ctcctgggag tgatagcaat cttnntggcc accgttgtnn ntgaagtgta 350
 tgaagtgctt ggaagacgat gaggtgcaga agatgaggat ggctgtcatt 400
 gggggcgcga tatttcttct tgcaggtctg gctattttag ttgccacagc 450
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<210> 273
<211> 552
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 25, 57, 67, 94-95, 116, 152, 165, 212, 233, 392-394
<223> unknown base
<400> 273
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 gctggcgaca acatentgac ecceagecat gtacgagggg ctttgaacgt 150
 engegtgteg caganeaceg ggeagateca gtgeaaagte tttgaeteet 200
 tgctgaatct gngcagcaca ttgcagcaac contgecetg atggtggttg 250
 gcatcctcct gggagtgata gcaatctttg tggccaccgt tggcatgaag 300
 tgtatgaagt gcttggaaga cgatgaggtg cagaagatga ggatggctgt 350
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acagcatggt atggcaatag aatcgttcaa gaattctatg accctatgac 450

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cccagtcaat gccaggtacg aatttggtca ggctctcttc actggctggg 500
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ga 552
<210> 274
<211> 526
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 25, 50, 60, 123, 127, 370, 395, 397-398, 402-403, 405-407
<223> unknown base
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 ccagtgcaaa gtctttgact ccttgctgaa tctgagcagc acattgcaag 200
 caacccgtgc cttgatgggg ttggcatcct cctgggagtg atagcaacct 250
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 gtgccagaag atgaggatgg ctgtcattgg gggcgcgata tttcttgttg 350
 caggtctggc tattttagtn gccacagcat ggtatggcaa tagantnntt 400
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<210> 275
<211> 398
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<221> unsure
<222> 22, 61, 91, 144, 238-239, 262, 265-266, 271, 274
<223> unknown base
<400> 275
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 gcagcacatt ncaagcaacc cettgeettg aaggtggttg ncateceec 100
 tgggagtgaa tagcaatctt tgtggccacc gttggcatga agtntatgaa 150
 gtgcttggaa gacgatgagg tgcagaagat gaggatggct gtcattgggg 200
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<210> 276
<211> 495
<212> DNA
<213> Homo sapiens
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<221> unsure
<222> 39, 58, 130, 234, 314, 364, 427, 450, 461, 476
<223> unknown base
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<210> 277
<211> 200
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 34, 87, 138, 147, 163, 165-166, 172
<223> unknown base
<400> 277
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<211> 542
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<213> Homo sapiens
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<222> 26, 43, 55, 77, 198, 361-362, 391-392, 396
<223> unknown base
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 accettegca tgaaagtgta tgaagtgctt ggaagacgat gaggtgcaga 300
 agatgaggat ggctgtcatt gggggcgcga tatttcttct tgcaggtctg 350
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<211> 548
<212> DNA
<213> Homo sapiens
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<221> unsure
<222> 90, 115, 147, 228, 387
<223> unknown base
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<223> Synthetic oligonucleotide probe
<400> 281
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<210> 282
<211> 43
<212> DNA
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<213> Homo sapiens
<400> 283
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<210> 284

<211> 243

<212> PRT

<213> Homo sapiens

<400> 284

Met Ala Lys Val Glu Gln Val Leu Ser Leu Glu Pro Gln His Glu 1 5 10 15

Leu Lys Phe Arg Gly Pro Phe Thr Asp Val Val Thr Thr Asn Leu 20 25 30

Lys Leu Gly Asn Pro Thr Asp Arg Asn Val Cys Phe Lys Val Lys 35 40 45

Thr Thr Ala Pro Arg Arg Tyr Cys Val Arg Pro Asn Ser Gly Ile
50 55 60

Ile Asp Ala Gly Ala Ser Ile Asn Val Ser Val Met Leu Gln Pro 65 70 75

Phe Asp Tyr Asp Pro Asn Glu Lys Ser Lys His Lys Phe Met Val 80 85 90

Gln Ser Met Phe Ala Pro Thr Asp Thr Ser Asp Met Glu Ala Val 95 100 105

Trp Lys Glu Ala Lys Pro Glu Asp Leu Met Asp Ser Lys Leu Arg 110 115 120

Cys Val Phe Glu Leu Pro Ala Glu Asn Asp Lys Pro His Asp Val 125 130 135

Glu Ile Asn Lys Ile Ile Ser Thr Thr Ala Ser Lys Thr Glu Thr 140 145 150

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Pro Ile Val Ser Lys Ser Leu Ser Ser Ser Leu Asp Asp Thr Glu
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Val Lys Lys Val Met Glu Glu Cys Lys Arg Leu Gln Gly Glu Val
                170
Gln Arg Leu Arg Glu Glu Asn Lys Gln Phe Lys Glu Glu Asp Gly
Leu Arg Met Arg Lys Thr Val Gln Ser Asn Ser Pro Ile Ser Ala
                                                        210
                200
Leu Ala Pro Thr Gly Lys Glu Glu Gly Leu Ser Thr Arg Leu Leu
                215
Ala Leu Val Val Leu Phe Phe Ile Val Gly Val Ile Ile Gly Lys
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Ile Ala Leu

<210> 285 <211> 418 <212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 40, 53, 68, 119, 134, 177-178, 255

<223> unknown base

<400> 285 gtcagtcttc tagattgtcc ttatcccacc tttcaaccan tactcacatt 50 tenagegeee aggteeangt etgageetga etteeeettg gggaeetage 100 ctggagtcag gacaatggnt cgggctgcag aggnttagaa gcgagggcac 150 cagcagtttt gggtggggag caagggnnga gagaaactct tcagcgaatc 200 cttctagtac tagttgagag tttgactgtg aattaatttt atgccataaa 250 agacnaaccc agttctgttt gactatgtag catcttgaaa agaaaaatta 300 taataaagcc ccaaaattaa gaattctttt gtcattttgt cacatttgct 350 ctatggggg aattattatt ttatcatttt tattattttg ccattggaag 400 gttaacttta aaatgagc 418

<210> 286

<211> 543

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 73, 97

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<223> unknown base
<400> 286
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 gtcccacgt ggcccactcc cggcccaggc tgctttccgt gtcttcagtt 200
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 cgtgtgttga ctgattgacc cagcgctttg gaaataaatg gcagtgcttt 350
 gttcacttaa agggaccaag ctaaattgta ttggttcatg tagtgaagtc 400
 aaactgttat tcagagatgt ttaatgcata tttaacttat ttaatgtatt 450
 tcatctcatg ttttcttatt gtcacaagag tacagttaat gctgcgtgct 500
 gctgaactct gttgggtgaa ctggtattgc tgctggaggg ctg 543
<210> 287
<211> 270
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 38, 64, 72, 164, 198, 200, 220, 222, 229, 242
<223> unknown base
<400> 287
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 catatccatg ggatttaaat ttatcataac catgtgtaaa aagaaattaa 150
 tgtatgatga catntcacag gtattgcctt taaattaccc atccctgnan 200
 acacatacac agatacacan anacaaatnt aatgtaacga tnttttagaa 250
 agttaaaaat gtatagtaac 270
<210> 288
<211> 428
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
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<222> 35, 116, 129, 197, 278, 294, 297, 349, 351

<223> unknown base

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<400> 288
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gccatcagct ccttgggact gatgaacaga gtcagaagcc caaaggaatt 100
gcactgtggc agcatnagac gtacttgtna taagtgagag gcgtgtgttg 150
 actgattgac ccagcgcttt ggaaataaat ggcagtgctt tgttcantta 200
 aagggaccaa gctaaatttg tattggttca tgtagtgaag tcaaactgtt 250
 attcagagat gtttaatgca tatttaantt atttaatgta tttnatntca 300
 tgttttctta ttgtcacaag agtacagtta atgctgcgtg ctgctgaant 350
 ntgttgggtg aactggtatt gctgctggag ggctgtgggc tcctctgtct 400
 ttggagagtc tggtcatgtg gaggtggg 428
<210> 289
<211> 320
<212> DNA
<213> Homo sapiens
<400> 289
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 atgaacagag tcagaagccc aaaggaattg cactgtggca gcatcagacg 100
 tactcgtcat aagtgagagg cgtgtgttga ctgattgacc cagcgctttg 150
 gaaataaatg gcagtgcttt gttcacttaa agggaccaag ctaaatttgt 200
 attggttcat gtagtgaagt caaactgtta ttcagagatg tttaatgcat 250
 atttaactta tttaatgtat ttcatctcat gttttcttat tgtcacaaga 300
 gtacagttaa tgctgcgtgc 320
<210> 290
<211> 609
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 57, 60, 186, 235, 244, 304, 339, 355, 359, 361, 387, 432, 441,
      447, 481, 513, 532, 584, 598
<223> unknown base
<400> 290
 aaacctttaa aagttgaggg gaaaagaatg atcctttatt aatgacaagg 50
 gaaaccntgn gtaatgccac aatggcatat tgtaaatgtc attttaaaca 100
 ttggtaggcc ttggtacatg atgctggatt acctctctta aaatgacacc 150
 cttcctcgcc tgttggtgct ggcccttggg gagctngagc ccagcatgct 200
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ggggagtgcg gtctgctcca cacagtagtc cccangtggc ccantcccgg 250 cccaggetge tttccgtgte ttcagttetg tecaagecat cageteettg 300 ggantgatga acagagtcag aagcccaaag gaattgcant gtggcagcat 350 cagangtant ngtcataagt gagaggcgtg tgttgantga ttgacccagc 400 gctttggaaa taaatggcag tgctttgttc anttaaaggg nccaagntaa 450 atttgtattg gttcatgtag tgaagtcaaa ntgttattca gagatgttta 500 atgcatattt aanttattta atgtatttca tntcatgttt tcttattgtc 550 acaagggtac agttaatgct gcgtgctgct gaantctgtt gggtgaantg 600 gtattgctg 609 <210> 291

<211> 493 <212> DNA

<213> Homo sapiens

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tgggctcctc tgtctctgga gagtctggtc atgtggaggt ggg 493

<210> 292 <211> 27

<212> DNA

<213> Artificial Sequence

<223> Synthetic oligonucleotide probe

<400> 292

gcaccaccgt aggtacttgt gtgaggc 27

<210> 293

<211> 23

<212> DNA

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<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 293
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<210> 294
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 294
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<210> 295
<211> 2530
<212> DNA
<213> Homo sapiens
<400> 295
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 gctctgatct cagctgacag tgccctcggg gaccaaacaa gcctggcagg 150
 gtctcacttt gttgcccagg ctggagttca gtgccatgat catggtttac 200
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<210> 296

<211> 413

<212> PRT

<213> Homo sapiens

<400> 296

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Thr Leu Ile Asp Gly Ser Glu Met Glu Trp Asp Phe Met Trp His
20 25 30

Leu Arg Lys Val Pro Arg Ile Val Ser Glu Arg Thr Phe His Leu
35 40 45

Thr Ser Pro Ala Phe Glu Ala Asp Ala Lys Met Met Val Asn Thr
50 55 60

Val Cys Gly Ile Glu Cys Gln Lys Glu Leu Pro Thr Pro Ser Leu 65 70 75

Ser Glu Leu Glu Asp Tyr Leu Ser Tyr Glu Thr Val Phe Glu Asn 80 85 90

Gly Thr Arg Thr Leu Thr Arg Val Lys Val Gln Asp Leu Val Leu
95 100 105

Glu Pro Thr Gln Asn Ile Thr Thr Lys Gly Val Ser Val Arg Arg
110 115 120

Lys Arg Gln Val Tyr Gly Thr Asp Ser Arg Phe Ser Ile Leu Asp 125 130 135

Lys Arg Phe Leu Thr Asn Phe Pro Phe Ser Thr Ala Val Lys Leu 140 145 150

Ser Thr Gly Cys Ser Gly Ile Leu Ile Ser Pro Gln His Val Leu 155 160 165

Thr Ala Ala His Cys Val His Asp Gly Lys Asp Tyr Val Lys Gly 170 175 180

Ser Lys Lys Leu Arg Val Gly Leu Leu Lys Met Arg Asn Lys Ser 185 190

Gly Gly Lys Lys Arg Arg Gly Ser Lys Arg Ser Arg Arg Glu Ala 200 205 210

<211> 24 <212> DNA

<213> Artificial Sequence

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 Asn Thr His Ile Pro Lys Gly Trp Ala Arg Gly Gly Met Gly Asp
 Ala Thr Leu Asp Tyr Asp Tyr Ala Leu Leu Glu Leu Lys Arg Ala
 His Lys Lys Lys Tyr Met Glu Leu Gly Ile Ser Pro Thr Ile Lys
                                     295
 Lys Met Pro Gly Gly Met Ile His Phe Ser Gly Phe Asp Asn Asp
 Arg Ala Asp Gln Leu Val Tyr Arg Phe Cys Ser Val Ser Asp Glu
                                     325
 Ser Asn Asp Leu Leu Tyr Gln Tyr Cys Asp Ala Glu Ser Gly Ser
 Thr Gly Ser Gly Val Tyr Leu Arg Leu Lys Asp Pro Asp Lys Lys
 Asn Trp Lys Arg Lys Ile Ile Ala Val Tyr Ser Gly His Gln Trp
 Val Asp Val His Gly Val Gln Lys Asp Tyr Asn Val Ala Val Arg
 Ile Thr Pro Leu Lys Tyr Ala Gln Ile Cys Leu Trp Ile His Gly
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 Asn Asp Ala Asn Cys Ala Tyr Gly
<210> 297
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 297
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<210> 298
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<220>
<223> Synthetic oligonucleotide probe
<400> 298
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<210> 299
<211> 45
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 299
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<210> 300
<211> 1869
<212> DNA
<213> Homo sapiens
<400> 300
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<210> 301

<211> 525

<212> PRT

<213> Homo sapiens

<400> 301

Met Glu Cys Cys Arg Arg Ala Thr Pro Gly Thr Leu Leu Phe 1 5 10 15

Leu Ala Phe Leu Leu Ser Ser Arg Thr Ala Arg Ser Glu Glu 20 25 30

Asp Arg Asp Gly Leu Trp Asp Ala Trp Gly Pro Trp Ser Glu Cys 35 40 45

Ser Arg Thr Cys Gly Gly Gly Ala Ser Tyr Ser Leu Arg Arg Cys
50 55 60

Leu Ser Ser Lys Ser Cys Glu Gly Arg Asn Ile Arg Tyr Arg Thr Cys Ser Asn Val Asp Cys Pro Pro Glu Ala Gly Asp Phe Arg Ala Gln Gln Cys Ser Ala His Asn Asp Val Lys His His Gly Gln Phe Tyr Glu Trp Leu Pro Val Ser Asn Asp Pro Asp Asn Pro Cys Ser Leu Lys Cys Gln Ala Lys Gly Thr Thr Leu Val Val Glu Leu Ala Pro Lys Val Leu Asp Gly Thr Arg Cys Tyr Thr Glu Ser Leu Asp Met Cys Ile Ser Gly Leu Cys Gln Ile Val Gly Cys Asp His Gln Leu Gly Ser Thr Val Lys Glu Asp Asn Cys Gly Val Cys Asn Gly 170 Asp Gly Ser Thr Cys Arg Leu Val Arg Gly Gln Tyr Lys Ser Gln Leu Ser Ala Thr Lys Ser Asp Asp Thr Val Val Ala Leu Pro Tyr Gly Ser Arg His Ile Arg Leu Val Leu Lys Gly Pro Asp His Leu Tyr Leu Glu Thr Lys Thr Leu Gln Gly Thr Lys Gly Glu Asn Ser 230 Leu Ser Ser Thr Gly Thr Phe Leu Val Asp Asn Ser Ser Val Asp 250 Phe Gln Lys Phe Pro Asp Lys Glu Ile Leu Arg Met Ala Gly Pro Leu Thr Ala Asp Phe Ile Val Lys Ile Arg Asn Ser Gly Ser Ala 275 Asp Ser Thr Val Gln Phe Ile Phe Tyr Gln Pro Ile Ile His Arg Trp Arg Glu Thr Asp Phe Phe Pro Cys Ser Ala Thr Cys Gly Gly Gly Tyr Gln Leu Thr Ser Ala Glu Cys Tyr Asp Leu Arg Ser Asn 320 Arg Val Val Ala Asp Gln Tyr Cys His Tyr Tyr Pro Glu Asn Ile Lys Pro Lys Pro Lys Leu Gln Glu Cys Asn Leu Asp Pro Cys Pro

			350					355					360
Ala Se	r Asp	Gly	Tyr 365	Lys	Gln	Ile	Met	Pro 370	Tyr	Asp	Leu	Tyr	His 375
Pro Le	u Pro	Arg	Trp 380	Glu	Ala	Thr	Pro	Trp 385	Thr	Ala	Суз	Ser	Ser 390
Ser Cy	s Gly	Gly	Gly 395	Ile	Gln	Ser	Arg	Ala 400	Val	Ser	Cys	Val	Glu 405
Glu As	p Ile	Gln	Gly 410	His	Val	Thr	Ser	Val 415	Glu	Glu	Trp	Lys	Cys 420
Met Ty	r Thr	Pro	Lys 425	Met	Pro	Ile	Ala	Gln 430	Pro	Cys	Asn	Ile	Phe 435
Asp Cy	s Pro	Lys	Trp 440	Leu	Ala	Gln	Glu	Trp 445	Ser	Pro	Суз	Thr	Val 450
Thr Cy	s Gly	Gln	Gly 455	Leu	Arg	Tyr	Arg	Val 460	Val	Leu	Суѕ	Ile	Asp 465
His Ar	g Gly	Met	His 470	Thr	Gly	Gly	Суз	Ser 475	Pro	Lys	Thr	Lys	Pro 480
His Il	e Lys	Glu	Glu 485	Cys	Ile	Val	Pro	Thr 490	Pro	Cys	Tyr	Lys	Pro 495
Lys Gl	u Lys	Leu	Pro 500	Val	Glu	Ala	Lys	Leu 505	Pro	Trp	Phe	Lys	Gln 510
Ala Gl	n Glu	Leu	Glu 515	Glu	Gly	Ala	Ala	Val 520	Ser	Glu	Glu	Pro	Ser 525
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etegggeetg acagatggea gtggeeactg eggeggeagt actggeegget 100

etgggegggg egetgtgget ggeggeeege eggttegtgg ggeeeagggt 150

ecageggetg egeagaggeg gggaceeegg eeteatgeae gggaagaetg 200

tgetgateae eggggegaae ageggeetgg geeggeeae ggeegeegag 250

etactgegee tgggageegg ggtgateatg ggetgeeggg acegeegeg 300

egeegaggag geggeggte ageteegee egageteege eaggeegeg 350

agtgeggeee agageetgge gteageggg tgggegaget eatagteegg 400

gagetggaee tegeeteget gegeteggt egegeettet geeaggaaat 450

gctccaggaa gagcctaggc tggatgtctt gatcaataac gcagggatct 500 tccagtgccc ttacatgaag actgaagatg ggtttgagat gcagttcgga 550 gtgaaccatc tggggcactt tctactcacc aatcttctcc ttggactcct 600 caaaagttca gctcccagca ggattgtggt agtttcttcc aaactttata 650 aatacggaga catcaatttt gatgacttga acagtgaaca aagctataat 700 aaaagctttt gttatagccg gagcaaactg gctaacattc tttttaccag 750 ggaactagcc cgccgcttag aaggcacaaa tgtcaccgtc aatgtgttgc 800 atcctggtat tgtacggaca aatctgggga ggcacataca cattccactg 850 ttggtcaaac cactettcaa tttggtgtca tgggcttttt tcaaaactcc 900 agtagaaggt gcccagactt ccatttattt ggcctcttca cctgaggtag 950 aaggagtgtc aggaagatac tttggggatt gtaaagagga agaactgttg 1000 cccaaagcta tggatgaatc tgttgcaaga aaactctggg atatcagtga 1050 agtgatggtt ggcctgctaa aataggaaca aggagtaaaa gagctgttta 1100 taaaactgca tatcagttat atctgtgatc aggaatggtg tggattgaga 1150 acttgttact tgaagaaaaa gaattttgat attggaatag cctgctaaga 1200 ggtacatgtg ggtattttgg agttactgaa aaattatttt tgggataaga 1250 gaatttcagc aaagatgttt taaatatata tagtaagtat aatgaataat 1300 aagtacaatg aaaaatacaa ttatattgta aaattataac tgggcaagca 1350 tggatgacat attaatattt gtcagaatta agtgactcaa agtgctatcg 1400 agaggttttt caagtatett tgagttteat ggecaaagtg ttaactagtt 1450 ttactacaat gtttggtgtt tgtgtggaaa ttatctgcct ggtgtgtgca 1500 cacaagtett acttggaata aatttactgg tac 1533

<210> 303

<211> 336

<212> PRT

<213> Homo sapiens

<400> 303

Met Ala Val Ala Thr Ala Ala Ala Val Leu Ala Ala Leu Gly Gly
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Ala Leu Trp Leu Ala Ala Arg Arg Phe Val Gly Pro Arg Val Gln 20 25 30

Arg Leu Arg Arg Gly Gly Asp Pro Gly Leu Met His Gly Lys Thr 35 40 45

Val	Leu	Ile	Thr	Gly 50	Ala	Asn	Ser	Gly	Leu 55	Gly	Arg	Ala	Thr	Ala 60
Ala	Glu	Leu	Leu	Arg 65	Leu	Gly	Ala	Arg	Val 70	Ile	Met	Gly	Суз	Arg 75
Asp	Arg	Ala	Arg	Ala 80	Glu	Glu	Ala	Ala	Gly 85	Gln	Leu	Arg	Arg	Glu 90
Leu	Arg	Gln	Ala	Ala 95	Glu	Cys	Gly	Pro	Glu 100	Pro	Gly	Val	Ser	Gly 105
Val	Gly	Glu	Leu	Ile 110	Val	Arg	Glu	Leu	Asp 115	Leu	Ala	Ser	Leu	Arg 120
Ser	Val	Arg	Ala	Phe 125	Cys	Gln	Glu	Met	Leu 130	Gln	Glu	Glu	Pro	Arg 135
Leu	Asp	Val	Leu	Ile 140	Asn	Asn	Ala	Gly	Ile 145	Phe	Gln	Cys	Pro	Tyr 150
Met	Lys	Thr	Glu	Asp 155	Gly	Phe	Glu	Met	Gln 160	Phe	Gly	Val	Asn	His 165
Leu	Gly	His	Phe	Leu 170	Leu	Thr	Asn	Leu	Leu 175	Leu	Gly	Leu	Leu	Lys 180
Ser	Ser	Ala	Pro	Ser 185	Arg	Ile	Val	Val	Val 190	Ser	Ser	Lys	Leu	Tyr 195
Lys	Tyr	Gly	Asp	Ile 200	Asn	Phe	Asp	Asp	Leu 205	Asn	Ser	Glu	Gln	Ser 210
Tyr	Asn	Lys	Ser	Phe 215	Cys	Tyr	Ser	Arg	Ser 220	Lys	Leu	Ala	Asn	Ile 225
Leu	Phe	Thr	Arg	Glu 230	Leu	Ala	Arg	Arg	Leu 235	Glu	Gly	Thr	Asn	Val 240
Thr	Val	Asn	Val	Leu 245	His	Pro	Gly	Ile	Val 250	Arg	Thr	Asn	Leu	Gly 255
Arg	His	Ile	His	Ile 260	Pro	Leu	Leu	Val	Lys 265	Pro	Leu	Phe	Asn	Leu 270
Val	Ser	Trp	Ala	Phe 275	Phe	Lys	Thr	Pro	Val 280	Glu	Gly	Ala	Gln	Thr 285
Ser	Ile	Tyr	Leu	Ala 290	Ser	Ser	Pro	Glu	Val 295	Glu	Gly	Val	Ser	Gly 300
Arg	Tyr	Phe	Gly	Asp 305	Cys	Lys	Glu	Glu	Glu 310	Leu	Leu	Pro	Lys	Ala 315
Met	Asp	Glu	Ser	Val 320	Ala	Arg	Lys	Leu	Trp 325	Asp	Ile	Ser	Glu	Val 330
Met	Val	Gly	Leu	Leu	Lys									

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<210> 304
<211> 521
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 20, 34, 62, 87, 221, 229
<223> unknown base
<400> 304
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 gcaagaaaat tntgggatat cagtgaagtg atggttngcc tgctaaaata 100
 ggaacaagga gtaaaagagc tgtttataaa actgcatatc agttatatct 150
 gtgatcagga atggtgtgga ttgagaactt gttacttgaa gaaaaagaat 200
 tttgatattg gaatagcctg ntaagaggna catgtgggta ttttggagtt 250
 actgaaaaat tatttttggg ataagagaat ttcagcaaag atgttttaaa 300
 tatatatagt aagtataatg aataataagt acaatgaaaa atacaattat 350
. attgtaaaat tataactggg caagcatgga tgacatatta atatttgtca 400
 gaattaagtg actcaaagtg ctatcgagag gtttttcaag tatctttgag 450
 tttcatggcc aaagtgttaa ctagttttac tacaatgttt ggtgtttgtg 500
 tggaaattat ctgcctggct t 521
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<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 305
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<210> 306
<211> 26
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 306
 gcccatgaca ccaaattgaa gagtgg 26
<210> 307
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<211> 45
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 307
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<210> 308
<211> 1523
<212> DNA
<213> Homo sapiens
<400> 308
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 cggagcccag ccctttccta acccaaccca acctagccca gtcccagccg 100
 ccaqcqcctq tccctqtcac qqaccccaqc qttaccatqc atcctqccqt 150
 cttcctatcc ttacccgacc tcagatgctc ccttctgctc ctggtaactt 200
 gggtttttac tcctgtaaca actgaaataa caagtcttgc tacagagaat 250
atagatgaaa ttttaaacaa tgctgatgtt gctttagtaa atttttatgc 300
tgactggtgt cgtttcagtc agatgttgca tccaattttt gaggaagctt 350
ccgatgtcat taaggaagaa tttccaaatg aaaatcaagt agtgtttgcc 400
agagttgatt gtgatcagca ctctgacata gcccagagat acaggataag 450
caaataccca acctcaaat tgtttcgtaa tgggatgatg atgaagagag 500
aatacagggg tcagcgatca gtgaaagcat tggcagatta catcaggcaa 550
caaaaaagtg accccattca agaaattcgg gacttagcag aaatcaccac 600
tettgatege ageaaaagaa atateattgg atattttgag caaaaggact 650
cggacaacta tagagttttt gaacgagtag cgaatatttt gcatgatgac 700
tgtqcctttc tttctqcatt tgqgqatgtt tcaaaaccgg aaagatatag 750
tggcgacaac ataatctaca aaccaccagg gcattctgct ccggatatgg 800
tgtacttggg agctatgaca aattttgatg tgacttacaa ttggattcaa 850
gataaatgtg ttcctcttgt ccgagaaata acatttgaaa atggagagga 900
attgacagaa gaaggactgc cttttctcat actctttcac atgaaagaag 950
atacagaaag tttagaaata ttccagaatg aagtagctcg gcaattaata 1000
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<210> 309

<211> 406

<212> PRT

<213> Homo sapiens

<400> 309

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Leu Leu Leu Val Thr Trp Val Phe Thr Pro Val Thr Thr Glu 20 25 30

Ile Thr Ser Leu Ala Thr Glu Asn Ile Asp Glu Ile Leu Asn Asn 35 40 45

Ala Asp Val Ala Leu Val Asn Phe Tyr Ala Asp Trp Cys Arg Phe
50 55 60

Ser Gln Met Leu His Pro Ile Phe Glu Glu Ala Ser Asp Val Ile 65 70 75

Lys Glu Glu Phe Pro Asn Glu Asn Gln Val Val Phe Ala Arg Val 80 85 90

Asp Cys Asp Gln His Ser Asp Ile Ala Gln Arg Tyr Arg Ile Ser 95 100 105

Lys Tyr Pro Thr Leu Lys Leu Phe Arg Asn Gly Met Met Lys 110 115 120

Arg Glu Tyr Arg Gly Gln Arg Ser Val Lys Ala Leu Ala Asp Tyr 125 130 135

Ile Arg Gln Gln Lys Ser Asp Pro Ile Gln Glu Ile Arg Asp Leu 140 145 150

Ala Glu Ile Thr Thr Leu Asp Arg Ser Lys Arg Asn Ile Ile Gly
155 160 165

Tyr	Phe	Glu	Gln	Lys 170	Asp	Ser	Asp	Asn	Tyr 175	Arg	Val	Phe	Glu	Arg 180
Val	Ala	Asn	Ile	Leu 185	His	Asp	Asp	Cys	Ala 190	Phe	Leu	Ser	Ala	Phe 195
Gly	Asp	Val	Ser	Lys 200	Pro	Glu	Arg	Tyr	Ser 205	Gly	Asp	Asn	Ile	Ile 210
Tyr	Lys	Pro	Pro	Gly 215	His	Ser	Ala	Pro	Asp 220	Met	Val	Tyr	Leu	Gly 225
Ala	Met	Thr	Asn	Phe 230	Asp	Val	Thr	Tyr	Asn 235	Trp	Ile	Gln	Asp	Lys 240
Суз	Val	Pro	Leu	Val 245	Arg	Glu	Ile	Thr	Phe 250	Glu	Asn	Gly	Glu	Glu 255
Leu	Thr	Glu	Glu	Gly 260	Leu	Pro	Phe	Leu	Ile 265	Leu	Phe	His	Met	Lys 270
Glu	Asp	Thr	Glu	Ser 275	Leu	Glu	Ile	Phe	Gln 280	Asn	Glu	Val	Ala	Arg 285
Gln	Leu	Ile	Ser	Glu 290	Lys	Gly	Thr	Ile	Asn 295	Phe	Leu	His	Ala	Asp 300
Cys	Asp	Lys	Phe	Arg 305	His	Pro	Leu	Leu	His 310	Ile	Gln	Lys	Thr	Pro 315
Ala	Asp	Cys	Pro	Val 320	Ile	Ala	Ile	Asp	Ser 325	Phe	Arg	His	Met	Tyr 330
Val	Phe	Gly	Asp	Phe 335	Lys	Asp	Val	Leu	Ile 340	Pro	Gly	Lys	Leu	Lys 345
Gln	Phe	Val	Phe	Asp 350	Leu	His	Ser	Gly	Lys 355	Leu	His	Arg	Glu	Phe 360
His	His	Gly	Pro	Asp 365	Pro	Thr	Asp	Thr	Ala 370	Pro	Gly	Glu	Gln	Ala 375
Gln	Asp	Val	Ala	Ser 380	Ser	Pro	Pro	Glu	Ser 385	Ser	Phe	Gln	Lys	Leu 390
Ala	Pro	Ser	Glu	Tyr 395	Arg	Tyr	Thr	Leu	Leu 400	Arg	Asp	Arg	Asp	Glu 405

Leu

<210> 310 <211> 182 <212> DNA <213> Homo sapiens

<220> <221> unsure

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<222> 36, 48
<223> unknown base
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 ttgtgatcag cactctgaca tagcccagag atacaggata agcaaatacc 100
 caaccctcaa attgtttcgt aatgggatga tgatgaagag agaatacagg 150
 ggtcagcgat cagtgaaagc attggcagat ta 182
<210> 311
<211> 598
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 38, 59, 140, 169, 174, 183, 282-283, 294-295, 319, 396
<223> unknown base
<400> 311
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 gagaggacna ggtgccgctg cctggagaat cctccgctgc cgtcggctcc 100
 cggagcccag ccctttccta acccaaccca acctagcccn gtcccagccg 150
 ccagcgcctg tccctgtcnc ggancccagc gtnaccatgc atcctgccgt 200
 cttcctatcc ttacccgacc tcagatgctc ccttctgctc ctggtaactt 250
 gggtttttac tcctgtaaca actgaaataa cnngtcttga tacnnagaat 300
 ataqatqaaa ttttaaacna tgctgatgtg gctttagtca atttttatgc 350
 tgactggtgt cgtttcagtc agatgtggca tccaattttt gaggangctt 400
 ccgatgtcat taaggaagaa tttccaaatg aaaatcaagt agtgtttgcc 450
 agagttgatt gtgatcagca ctctgacata gcccagagat acaggataag 500
 caaataccca accctcaaat tgtttcgtaa tgggatgatg atgaagagag 550
 aatacaqqqq tcaqcqatca qtgaaaqcat tggcagatta catcaggc 598
<210> 312
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<212> DNA
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<223> Synthetic oligonucleotide probe
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<211> 19
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<223> Synthetic oligonucleotide probe
<400> 313
 gtcagcgatc agtgaaagc 19
<210> 314
<211> 20
<212> DNA
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<223> Synthetic oligonucleotide probe
<400> 314
 ccagaatgaa gtagctcggc 20
<210> 315
<211> 20
<212> DNA
<213> Artificial Sequence
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<400> 315
ccgactcaaa atgcattgtc 20
<210> 316
<211> 19
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 316
catttggcag gaattgtcc 19
<210> 317
<211> 18
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 317
ggtgctatag gccaaggg 18
<210> 318
<211> 24
<212> DNA
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<220>
<223> Synthetic oligonucleotide probe
<400> 318
 ctgtatctct gggctatgtc agag 24
<210> 319
<211> 25
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 319
 ctacatataa tggcacatgt cagcc 25
<210> 320
<211> 46
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 320
 cgtcttccta tccttacccg acctcagatg ctcccttctg ctcctg 46
<210> 321
<211> 1333
<212> DNA
<213> Homo sapiens
<400> 321
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 cgctgctgct cactgccgcg ctcatcttct tcgccatttg gcacattata 100
 gcatttgatg agctgaagac tgattacaag aatcctatag accagtgtaa 150
taccetgaat eccettgtac teccagagta ecteatecae getttettet 200
gtgtcatgtt tctttgtgca gcagagtggc ttacactggg tctcaatatg 250
cccctcttgg catatcatat ttggaggtat atgagtagac cagtgatgag 300
tggcccagga ctctatgacc ctacaaccat catgaatgca gatattctag 350
catattgtca gaaggaagga tggtgcaaat tagctttta tcttctagca 400
tttttttact acctatatgg catgatctat gttttggtga gctcttagaa 450
caacacacag aagaattggt ccagttaagt gcatgcaaaa agccaccaaa 500
tgaagggatt ctatccagca agatcctgtc caagagtagc ctgtggaatc 550
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tgatcagtta ctttaaaaaa tgactcctta ttttttaaat gtttccacat 600 ttttgcttgt ggaaagactg ttttcatatg ttatactcag ataaagattt 650 taaatggtat tacgtataaa ttaatataaa atgattacct ctggtgttga 700 caggittgaa citgcactic ttaaggaaca gccataatcc tctgaatgat 750 gcattaatta ctgactgtcc tagtacattg gaagcttttg tttataggaa 800 cttgtagggc tcattttggt ttcattgaaa cagtatctaa ttataaatta 850 gctgtagata tcaggtgctt ctgatgaagt gaaaatgtat atctgactag 900 tgggaaactt catgggtttc ctcatctgtc atgtcgatga ttatatatgg 950 atacatttac aaaaataaaa agcgggaatt ttcccttcgc ttgaatatta 1000 tecetgtata ttgcatgaat gagagattte ccatatttee atcagagtaa 1050 taaatatact tgctttaatt cttaagcata agtaaacatg atataaaaat 1100 atatgctgaa ttacttgtga agaatgcatt taaaagctatt ttaaatgtgt 1150 ttttatttgt aagacattac ttattaagaa attggttatt atgcttactg 1200 ttctaatctg gtggtaaagg tattcttaag aatttgcagg tactacagat 1250 tttcaaaact gaatgagaga aaattgtata accatcctgc tgttccttta 1300 gtgcaataca ataaaactct gaaattaaga ctc 1333

<210> 322

<211> 144

<212> PRT

<213> Homo sapiens

<400> 322

Met Ala Phe Thr Phe Ala Ala Phe Cys Tyr Met Leu Ala Leu Leu 1 5 10 15

Leu Thr Ala Ala Leu Ile Phe Phe Ala Ile Trp His Ile Ile Ala 20 25 30

Phe Asp Glu Leu Lys Thr Asp Tyr Lys Asn Pro Ile Asp Gln Cys
35 40 45

Asn Thr Leu Asn Pro Leu Val Leu Pro Glu Tyr Leu Ile His Ala 50 55 60

Phe Phe Cys Val Met Phe Leu Cys Ala Ala Glu Trp Leu Thr Leu 65 70 75

Gly Leu Asn Met Pro Leu Leu Ala Tyr His Ile Trp Arg Tyr Met 80 85 90

Ser Arg Pro Val Met Ser Gly Pro Gly Leu Tyr Asp Pro Thr Thr 95 100 105

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Ile Met Asn Ala Asp Ile Leu Ala Tyr Cys Gln Lys Glu Gly Trp
                 110
 Cys Lys Leu Ala Phe Tyr Leu Leu Ala Phe Phe Tyr Tyr Leu Tyr
                 125
                                      130
 Gly Met Ile Tyr Val Leu Val Ser Ser
                 140
<210> 323
<211> 477
<212> DNA
<213> Homo sapiens
<400> 323
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 tgtaataccc tgaatcccct tgtactccca gagtacctca tccacgcttt 100
 cttctgtgtc atgtttcttt gtgcagcaga gtggcttaca ctgggtctca 150
 atatgcccct cttggcatat catatttgga ggtatatgag tagaccagtg 200
 atgagtggcc caggactcta tgaccctaca accatcatga atgcagatat 250
 tctagcatat tgtcagaagg aaggatggtg caaattagct ttttatcttc 300
 tagcattttt ttactaccta tatggcatga tctatgtttt ggtgagctct 350
 tagaacaaca cacagaagaa ttggtccagt taagtgcatg caaaaagcca 400
 ccaaatgaag ggattctatc cagcaagatc ctgtccaaga gtagcctgtg 450
 gaatctgatc agttacttta aaaaatg 477
<210> 324
<211> 43
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 324
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<210> 325
<211> 41
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 325
caggaaacag ctatgaccac ctgcacacct gcaaatccat t 41
<210> 326
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<211> 20
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 326
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<210> 327
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 327
actggaccaa ttcttctgtg 20
<210> 328
<211> 45
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 328
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<210> 329
<211> 1174
<212> DNA
<213> Homo sapiens
<400> 329
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 tgtgacagag gggaacaaga tggcggcgcc gaaggggagc ctctgggtga 100
 ggacccaact ggggctcccg ccgctgctgc tgctgaccat ggccttggcc 150
 ggaggttcgg ggaccgcttc ggctgaagca tttgactcgg tcttgqqtga 200
 tacggcgtct tgccaccggg cctgtcagtt gacctacccc ttgcacacct 250
 accctaagga agaggagttg tacgcatgtc agagaggttg caggctgttt 300
 tcaatttgtc agtttgtgga tgatggaatt gacttaaatc gaactaaatt 350
 ggaatgtgaa tctgcatgta cagaagcata ttcccaatct gatgagcaat 400
 atgettgeea tettggttge cagaateage tgeeattege tgaactgaga 450
caagaacaac ttatgtccct gatgccaaaa atgcacctac tctttcctct 500
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aactetggtg aggteattet ggagtgacat gatggactec geacagaget 550 teataacete teatggace tettatette aageegatga eggaaaaata 600 gttatattee agtetaagee agaaateeag taegeaceae atttggagea 650 ggageetaca aatttgagag aateateet aageaaaatg teetatetge 700 aaatggagaaa teeacageg eacaggaatt teettgaaga tggagaaagt 750 gatggettt taagatgeet eteettaac teetgggtgga tettaactae 800 aactettgte eteetggtga taggtateet teggattgt tgtgeaacetg 850 tegetacage tgtggageag tatgteet etggagaaget gagtatetat 900 ggtgacttgg agttatgaa tgaacaaaag etaaacagat ateeagette 950 teetettgtg gttgttagat etaaaacega agateatgaa gaageaggge 1000 eteetacetae aaaagtgaat ettgeteatt etgaaatta ageatttte 1050 tettaaaaag eaagtgtaat agacatetaa aateeacete eteaaaacg 1100 etaaaaag taeteaaat agacatetaa taagaaatea taeteaaatg 1150 eaaaaaag taeteaaat taeteaaate tgtg 1174

<210> 330

<211> 323

<212> PRT

<213> Homo sapiens

<400> 330

Met Ala Ala Pro Lys Gly Ser Leu Trp Val Arg Thr Gln Leu Gly
1 5 10

Leu Pro Pro Leu Leu Leu Thr Met Ala Leu Ala Gly Gly Ser 20 25 30

Gly Thr Ala Ser Ala Glu Ala Phe Asp Ser Val Leu Gly Asp Thr 35 40 45

Ala Ser Cys His Arg Ala Cys Gln Leu Thr Tyr Pro Leu His Thr
50 55 60

Tyr Pro Lys Glu Glu Glu Leu Tyr Ala Cys Gln Arg Gly Cys Arg
65 70 75

Leu Phe Ser Ile Cys Gln Phe Val Asp Asp Gly Ile Asp Leu Asn 80 85 90

Arg Thr Lys Leu Glu Cys Glu Ser Ala Cys Thr Glu Ala Tyr Ser 95 100 105

Gln Ser Asp Glu Gln Tyr Ala Cys His Leu Gly Cys Gln Asn Gln 110 115 120

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Leu Pro Phe Ala Glu Leu Arg Gln Glu Gln Leu Met Ser Leu Met
Pro Lys Met His Leu Leu Phe Pro Leu Thr Leu Val Arg Ser Phe
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Trp Ser Asp Met Met Asp Ser Ala Gln Ser Phe Ile Thr Ser Ser
                155
Trp Thr Phe Tyr Leu Gln Ala Asp Asp Gly Lys Ile Val Ile Phe
Gln Ser Lys Pro Glu Ile Gln Tyr Ala Pro His Leu Glu Gln Glu
                185
                                    190
Pro Thr Asn Leu Arg Glu Ser Ser Leu Ser Lys Met Ser Tyr Leu
                200
                                    205
Gln Met Arg Asn Ser Gln Ala His Arg Asn Phe Leu Glu Asp Gly
                215
                                    220
Glu Ser Asp Gly Phe Leu Arg Cys Leu Ser Leu Asn Ser Gly Trp
                230
                                    235
Ile Leu Thr Thr Leu Val Leu Ser Val Met Val Leu Leu Trp
                245
                                    250
Ile Cys Cys Ala Thr Val Ala Thr Ala Val Glu Gln Tyr Val Pro
                260
Ser Glu Lys Leu Ser Ile Tyr Gly Asp Leu Glu Phe Met Asn Glu
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Gln Lys Leu Asn Arg Tyr Pro Ala Ser Ser Leu Val Val Val Arg
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<211> 350

<212> DNA

<213> Homo sapiens

<400> 331

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<223> unknown base
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 cgaagggagc ctttgggtga ggacccaact ggggctcccg ccgctgctgc 150
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 tgccattcgc tgaactgaga caagaacaac ttatgtccct gatgccaaaa 500
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 gatggactcc gc 562
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<213> Artificial Sequence
<220>
-<223> Synthetic oligonucleotide probe
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 ggcttttccc aagactacaa aaacttcttg aaagtgacta ctttaggtat 400
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gaatatgtag atttgcttct taatcctgag cgctacactg gttacaaggg 750
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acaagtgaag agaacacttt ttacagttgg ctagaaggtc tctgtgtaga 900
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<210> 337

<211> 468

<212> PRT

<213> Homo sapiens

<400> 337

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Ala Ala Gln Arg Cys Phe Cys Gln Val Ser Gly Tyr Leu Asp Asp 35 40 45

Cys Thr Cys Asp Val Glu Thr Ile Asp Arg Phe Asn Asn Tyr Arg 50 55 60

Leu Phe Pro Arg Leu Gln Lys Leu Leu Glu Ser Asp Tyr Phe Arg
65 70 75

Tyr	Tyr	Lys	Val	Asn 80	Leu	Lys	Arg	Pro	Cys 85	Pro	Phe	Trp	Asn	Asp 90
Ile	Ser	Gln	Cys	Gly 95	Arg	Arg	Asp	Cys	Ala 100	Val	Lys	Pro	Cys	Gln 105
Ser	Asp	Glu	Val	Pro 110	Asp	Gly	Ile	Lys	Ser 115	Ala	Ser	Tyr	Lys	Tyr 120
Ser	Glu	Glu	Ala	Asn 125	Asn	Leu	Ile	Glu	Glu 130	Cys	Glu	Gln	Ala	Glu 135
Arg	Leu	Gly	Ala	Val 140	Asp	Glu	Ser	Leu	Ser 145	Glu	Glu	Thr	Gln	Lys 150
Ala	Val	Leu	Gln	Trp 155	Thr	Lys	His	Asp	Asp 160	Ser	Ser	Asp	Asn	Phe 165
Cys	Glu	Ala	Asp	Asp 170	Ile	Gln	Ser	Pro	Glu 175	Ala	Glu	Tyr	Val	Asp 180
Leu	Leu	Leu	Asn	Pro 185	Glu	Arg	Tyr	Thr	Gly 190	Tyr	Lys	Gly	Pro	Asp 195
Ala	Trp	Lys	Ile	Trp 200	Asn	Val	Ile	Tyr	Glu 205	Glu	Asn	Суз	Phe	Lys 210
Pro	Gln	Thr	Ile	Lys 215	Arg	Pro	Leu	Asn	Pro 220	Leu	Ala	Ser	Gly	Gln 225
Gly	Thr	Ser	Glu	Glu 230	Asn	Thr	Phe	Tyr	Ser 235	Trp	Leu	Glu	Gly	Leu 240
Cys	Val	Glu	Lys	Arg 245	Ala	Phe	Tyr	Arg	Leu 250	Ile	Ser	Gly	Leu	His 255
Ala	Ser	Ile	Asn	Val 260	His	Leu	Ser	Ala	Arg 265	Tyr	Leu	Leu	Gln	Glu 270
Thr	Trp	Leu	Glu	Lys 275	Lys	Trp	Gly	His	Asn 280	Ile	Thr	Glu	Phe	Gln 285
Gln	Arg	Phe	Asp	Gly 290	Ile	Leu	Thr	Glu	Gly 295	Glu	Gly	Pro	Arg	Arg 300
Leu	Lys	Asn	Leu	Tyr 305	Phe	Leu	Tyr	Leu	Ile 310	Glu	Leu	Arg	Ala	Leu 315
Ser	Lys	Val	Leu	Pro 320	Phe	Phe	Glu	Arg	Pro 325	Asp	Phe	Gln	Leu	Phe 330
Thr	Gly	Asn	Lys	Ile 335	Gln	Asp	Glu	Glu	Asn 340	Lys	Met	Leu	Leu	Leu 345
Glu	Ile	Leu	His	Glu 350	Ile	Lys	Ser	Phe	Pro 355	Leu	His	Phe	Asp	Glu 360
Asn	Ser	Phe	Phe	Ala	Gly	Asp	Lys	Lys	Glu	Ala	His	Lys	Leu	Lys

370 365 375 Glu Asp Phe Arg Leu His Phe Arg Asn Ile Ser Arg Ile Met Asp 380 385 Cys Val Gly Cys Phe Lys Cys Arg Leu Trp Gly Lys Leu Gln Thr 400 Gln Gly Leu Gly Thr Ala Leu Lys Ile Leu Phe Ser Glu Lys Leu Ile Ala Asn Met Pro Glu Ser Gly Pro Ser Tyr Glu Phe His Leu 425 430 Thr Arg Gln Glu Ile Val Ser Leu Phe Asn Ala Phe Gly Arg Ile 445 Ser Thr Ser Val Lys Glu Leu Glu Asn Phe Arg Asn Leu Leu Gln 465 455 460 Asn Ile His <210> 338 <211> 507 <212> DNA <213> Homo sapiens <220> <221> unsure <222> 101, 263, 376, 397, 426 <223> unknown base <400> 338 gctggaaata tggatgtcat ctacgagaaa ctgttttaag ccacagacaa 50 ttaaaagacc tttaaatcct ttggcttctg gtcaagggac aagtgaagag 100 nacacttttt acagttggct agaaggtctc tgtgtagaaa aaagagcatt 150 ctacagactt atatctggcc tacatgcaag cattaatgtg catttgagtg 200 caagatatet tttacaagag acctggttag aaaagaaatg gggacacaac 250 attacagaat ttnaacagcg atttgatgga attttgactg aaggagaagg 300

tccaagaagg cttaagaact tgtattttct ctacttaata gaactaaggg 350

ctttatccaa agtgttacca ttcttngagc gcccagattt tcaactnttt 400

actggaaata aaattcagga tgaggnaaac aaaatgttac ttttggaaat 450

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agagattcat ccactgctcc aagtcg 26
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<213> Artificial Sequence

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<212> DNA
<213> Homo sapiens
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catggtgaaa ctccatctct actaaaaaaa aaaaaataca aaaattagct 1150

gggtgcgcta gtgcatgcct gtaatctcat ctactcggga ggctaagaca 1200 ggagactctc acttcaaccc aggaggtgga ggttgcggtg agccaagatt 1250 gtgcctctgc actctagcgt gggtgacaga gtaagcgaga ctccatctca 1300 aaaataataa taataataat tcagactcct tatcaggagt ccatgatctg 1350 gcctggcaca gtaactcatg cctgtaatcc caacattttg ggaggccaac 1400 gcaggaggat tgcttgaggt ctggaggttt gagaccagcc tgggcaacat 1450 agaaaagaccc catctctaaa taaatgtttt aaaaat 1486

<210> 346

<211> 124

<212> PRT

<213> Homo sapiens

<400> 346

Met Glu Leu Pro Phe Val Thr His Leu Phe Leu Pro Leu Val Phe 1 5 10 15

Leu Thr Gly Leu Cys Ser Pro Phe Asn Leu Asp Glu His His Pro
20 25 30

Arg Leu Phe Pro Gly Pro Pro Glu Ala Glu Phe Gly Tyr Ser Val 35 40 45

Leu Gln His Val Gly Gly Gly Gln Arg Trp Met Leu Val Gly Ala
50 55 60

Pro Trp Asp Gly Pro Ser Gly Asp Arg Arg Gly Asp Val Tyr Arg 65 70 75

Cys Pro Val Gly Gly Ala His Asn Ala Pro Cys Ala Lys Gly His 80 85 90

Leu Gly Asp Tyr Gln Leu Gly Asn Ser Ser His Pro Ala Val Asn 95 100 105

Met His Leu Gly Met Ser Leu Leu Glu Thr Asp Gly Asp Gly Gly 110 115 120

Phe Met Val Ser

<210> 347

<211> 509

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 22

<223> unknown base

<400> 347

<212> DNA

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  ggagagggac agaggccaga ggacttctca tactggacag aaaccgatca 150
  ggcatggaac tccccttcgt cactcacctg ttcttgcccc tggtgttcct 200
  gacaggtctc tgctcccct ttaacctgga tgaacatcac ccacgcctat 250
  teccagggee accagaaget gaatttggat acagtgtett acaacatgtt 300
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<213> Homo sapiens

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<213> Homo sapiens

<400> 352

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Glu Val Ala Ile Leu Pro Ala Pro Gln Asn Leu Ser Val Leu Ser 35 40 45

Thr Asn Met Lys His Leu Leu Met Trp Ser Pro Val Ile Ala Pro 50 55 60

Gly Glu Thr Val Tyr Tyr Ser Val Glu Tyr Gln Gly Glu Tyr Glu
65 70 75

Ser Leu Tyr Thr Ser His Ile Trp Ile Pro Ser Ser Trp Cys Ser

Leu Thr Glu Gly Pro Glu Cys Asp Val Thr Asp Asp Ile Thr Ala 95 100 105

Thr Val Pro Tyr Asn Leu Arg Val Arg Ala Thr Leu Gly Ser Gln
110 115 120

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                  125
 Thr Ile Leu Thr Arg Pro Gly Met Glu Ile Thr Lys Asp Gly Phe
                  140
 His Leu Val Ile Glu Leu Glu Asp Leu Gly Pro Gln Phe Glu Phe
 Leu Val Ala Tyr Trp Arg Arg Glu Pro Gly Ala Glu Glu His Val
                 170
 Lys Met Val Arg Ser Gly Gly Ile Pro Val His Leu Glu Thr Met
                                      190
 Glu Pro Gly Ala Ala Tyr Cys Val Lys Ala Gln Thr Phe Val Lys
                                                          210
 Ala Ile Gly Arg Tyr Ser Ala Phe Ser Gln Thr Glu Cys Val Glu
                                      220
 Val Gln Gly Glu Ala Ile Pro Leu Val Leu Ala Leu Phe Ala Phe
                 230
                                      235
                                                          240
 Val Gly Phe Met Leu Ile Leu Val Val Pro Leu Phe Val Trp
                                      250
                                                          255
 Lys Met Gly Arg Leu Leu Gln Tyr Ser Cys Cys Pro Val Val
                 260
                                      265
                                                          270
 Leu Pro Asp Thr Leu Lys Ile Thr Asn Ser Pro Gln Lys Leu Ile
                                      280
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                                     295
                                                          300
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<212> DNA
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<221> unsure
<222> 654, 711, 748, 827
<223> unknown base
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 cttncacctg gttattgagc tggaggacct ggggccccag tttgagttcc 700
 ttgtggccta ntggaggagg ggcgaacccc ttgcggcgca aggggttngc 750
 gaaccccttg cggccgctgg ggtatctctc gagaaaagag aggcccaata 800
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Val Pro Gly Pro Pro Phe Trp Gly Leu Val Asn Ala Ala Trp Ser 50 55 60

Leu Cys Ala Val Gly Lys Arg Gln Ser Pro Val Asp Val Glu Leu 65 70 75

Lys Arg Val Leu Tyr Asp Pro Phe Leu Pro Pro Leu Arg Leu Ser 80 85 90

Thr Gly Gly Glu Lys Leu Arg Gly Thr Leu Tyr Asn Thr Gly Arg
95 100 105

His Val Ser Phe Leu Pro Ala Pro Arg Pro Val Val Asn Val Ser 110 115 120

Gly Gly Pro Leu Leu Tyr Ser His Arg Leu Ser Glu Leu Arg Leu 125 130 135

Leu Phe Gly Ala Arg Asp Gly Ala Gly Ser Glu His Gln Ile Asn 140 145 150

His Gln Gly Phe Ser Ala Glu Val Gln Leu Ile His Phe Asn Gln 155 160 165

Glu Leu Tyr Gly Asn Phe Ser Ala Ala Ser Arg Gly Pro Asn Gly

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Pro	Phe	Leu	Ser	Arg 200	Leu	Leu	Asn	Arg	Asp 205	Thr	Ile	Thr	Arg	Ile 210
Ser	Tyr	Lys	Asn	Asp 215	Ala	Tyr	Phe	Leu	Gln 220	Asp	Leu	Ser	Leu	Glu 225
Leu	Leu	Phe	Pro	Glu 230	Ser	Phe	Gly	Phe	Ile 235	Thr	Tyr	Gln	Gly	Ser 240
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Leu	Leu	Ser	Gln	Asn 275	Pro	Pro	Ser	Gln	Ile 280	Phe	Gln	Ser	Leu	Ser 285
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Gly	Asn	Arg	Asp	Pro 305	Arg	His	Pro	Glu	Arg 310	Arg	Cys	Arg	Gly	Pro 315
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<211> 500

<212> PRT

<213> Homo sapiens

<400> 363

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Phe Met Ala Arg Ala Ile Pro Ala Met Val Val Pro Asn Ala Thr 20 25 30

Leu Leu Glu Lys Leu Glu Lys Tyr Met Asp Glu Asp Gly Glu 35 40 45

Trp Trp Ile Ala Lys Gln Arg Gly Lys Arg Ala Ile Thr Asp Asn 50 55 60

Asp Met Gln Ser Ile Leu Asp Leu His Asn Lys Leu Arg Ser Gln 65 70 75

Val Tyr Pro Thr Ala Ser Asn Met Glu Tyr Met Thr Trp Asp Val 80 85 90

Glu Leu Glu Arg Ser Ala Glu Ser Trp Ala Glu Ser Cys Leu Trp 95 100 105

Glu His Gly Pro Ala Ser Leu Leu Pro Ser Ile Gly Gln Asn Leu 110 115 120

Gly Ala His Trp Gly Arg Tyr Arg Pro Pro Thr Phe His Val Gln 125 130 135

Ser Trp Tyr Asp Glu Val Lys Asp Phe Ser Tyr Pro Tyr Glu His 140 145 150

Glu Cys Asn Pro Tyr Cys Pro Phe Arg Cys Ser Gly Pro Val Cys 155 160 165

Thr His Tyr Thr Gln Val Val Trp Ala Thr Ser Asn Arg Ile Gly

				170					175					180
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Asn	Trp	Trp	Gly	His 215	Ala	Pro	Tyr	Lys	His 220	Gly	Arg	Pro	Суз	Ser 225
Ala	Суз	Pro	Pro	Ser 230	Phe	Gly	Gly	Gly	Cys 235	Arg	Glu	Asn	Leu	Cys 240
Tyr	Lys	Glu	Gly	Ser 245	Asp	Arg	Tyr	Tyr	Pro 250	Pro	Arg	Glu	Glu	Glu 255
Thr	Asn	Glu	Ile	Glu 260	Arg	Gln	Gln	Ser	Gln 265	Val	His	Asp	Thr	His 270
Val	Arg	Thr	Arg	Ser 275	Asp	Asp	Ser	Ser	Arg 280	Asn	Glu	Val	Ile	Ser 285
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Glu	Met	Gln	Ser	Ser 335	Ile	Cys	Arg	Ala	Ala 340	Ile	His	Tyr	Gly	Ile 345
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Lys	His	Tyr	Phe	Ile 365	Lys	Ser	Asn	Arg	Asn 370	Gly	Ile	Gln	Thr	Ile 375
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Phe	His	Lys	Pro	Ala 410	Ser	His	Cys	Pro	Arg 415	Val	Tyr	Cys	Pro	Arg 420
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Arg	Val	Tyr	Ser	Asp 440	Leu	Ser	Ser	Ile	Cys 445	Arg	Ala	Ala	Val	His 450
Ala	Gly	Val	Val	Arg 455	Asn	His	Gly	Gly	Tyr 460	Val	Asp	Val	Met	Pro 465

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<213> Homo sapiens

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Ile Arg Tyr Ser Asp Val Lys Lys Leu Glu Met Lys Pro Lys Tyr 50 55 60

Pro His Cys Glu Glu Lys Met Val Ile Ile Thr Thr Lys Ser Val 65 70 75

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Glu Ile Leu Gly Pro Val Glu Gln Tyr Leu Gly Val Pro Tyr Ala

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Cys	Pro	Gln	His	Leu 95	Asp	Glu	Arg	Ser	Leu 100	Leu	His	Asp	Met	Leu 105
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Gln	Asp	Gln	Asn	Glu 125	Asp	Cys	Leu	Tyr	Leu 130	Asn	Ile	Tyr	Val	Pro 135
Thr	Glu	Asp	Gly	Ala 140	Asn	Thr	Lys	Lys	Asn 145	Ala	Asp	Asp	Ile	Thr 150
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Lys	Lys	Pro	Val	Met 170	Val	Tyr	Ile	His	Gly 175	Gly	Ser	Tyr	Met	Glu 180
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Asn	Val	Ile	Val	Ile 200	Thr	Ile	Asn	Tyr	Arg 205	Leu	Gly	Ile	Leu	Gly 210
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Tyr Gln Gly Val Gly Thr Gly Ser Ser Ser Leu Trp Asn Leu Met 65 70 75

Gly Asn Ala Met Val Met Thr Gln Tyr Ile Arg Leu Thr Pro Asp 80 85 90

Met Gln Ser Lys Gln Gly Ala Leu Trp Asn Arg Val Pro Cys Phe 95 100 105

Leu Arg Asp Trp Glu Leu Gln Val His Phe Lys Ile His Gly Gln
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Gly Lys Lys Asn Leu His Gly Asp Gly Leu Ala Ile Trp Tyr Thr 125 130 135

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Phe Val Gly Leu Gly Val Phe Val Asp Thr Tyr Pro Asn Glu Glu 155 160 165

Lys Gln Gln Glu Arg Val Phe Pro Tyr Ile Ser Ala Met Val Asn 170 175 180

Asn Gly Ser Leu Ser Tyr Asp His Glu Arg Asp Gly Arg Pro Thr \$185\$

Glu Leu Gly Gly Cys Thr Ala Ile Val Arg Asn Leu His Tyr Asp

Thr Phe Leu Val Ile Arg Tyr Val Lys Arg His Leu Thr Ile Met 215 220 225

Met Asp Ile Asp Gly Lys His Glu Trp Arg Asp Cys Ile Glu Val 230 235 240

Pro Gly Val Arg Leu Pro Arg Gly Tyr Tyr Phe Gly Thr Ser Ser 245 250 255

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Pro Val Ser Thr Pro Lys Asn Gly Met Ser Ser Lys Ser Arg Lys 35 40 45

Arg Ile Met Pro Asp Pro Val Thr Glu Pro Pro Val Thr Asp Pro 50 55 60

Val Tyr Glu Ala Leu Leu Tyr Cys Asn Ile Pro Ser Val Ala Glu 65 70 75

Arg Ser Met Glu Gly His Ala Pro His His Phe Lys Leu Val Ser 80 85 90

Val His Val Phe Ile Arg His Gly Asp Arg Tyr Pro Leu Tyr Val 95 100 105

Ile Pro Lys Thr Lys Arg Pro Glu Ile Asp Cys Thr Leu Val Ala 110 115 120

Asn Arg Lys Pro Tyr His Pro Lys Leu Glu Ala Phe Ile Ser His 125 130 135

Met Ser Lys Gly Ser Gly Ala Ser Phe Glu Ser Pro Leu Asn`Ser 140 145 150

Leu Pro Leu Tyr Pro Asn His Pro Leu Cys Glu Met Gly Glu Leu 155 160 165

Thr Gln Thr Gly Val Val Gln His Leu Gln Asn Gly Gln Leu Leu 170 175 180

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Arg Asp	Leu	Gln	Val 530	Lys	Val	Met	Ala	Arg 535	Asp	Asn	Gly	His	Pro 540
Pro Leu	Ser	Ser	Asn 545	Val	Ser	Leu	Ser	Leu 550	Phe	Val	Leu	Asp	Gln 555
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Trp Gln Ala Ala Leu Phe Gln Gly Gln Gln Leu Cys Gly Gly 50 55 60

Val Leu Val Gly Gly Asn Trp Val Leu Thr Ala Ala His Cys Lys 65 70 75

Lys Pro Lys Tyr Thr Val Arg Leu Gly Asp His Ser Leu Gln Asn 80 85 90

Lys Asp Gly Pro Glu Gln Glu Ile Pro Val Val Gln Ser Ile Pro 95 100 105

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 Lys Cys Thr Val Ser Gly Trp Gly Thr Val Thr Ser Pro Arg Glu
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Gly Arg	Val Pi	o Pro 365	Gly	Asp	Ser	Pro	Pro 370	Gly	Asn	Gly	Ser	Gly 375
Pro Arg	His II	le Asn 380	Asp	Ser	Pro	Phe	Gly 385	Thr	Leu	Pro	Gly	Ser 390
Ala Glu	Pro Pi	co Leu 395	Thr	Ala	Val	Arg	Pro 400	Glu	Gly	Ser	Glu	Pro 405
Pro Gly	Phe Pi	ro Thr 410	Ser	Gly	Pro	Arg	Arg 415	Arg	Pro	Gly	Cys	Ser 420
Arg Lys	Asn A	rg Thr 425	Arg	Ser	His	Cys	Arg 430	Leu	Gly	Gln	Ala	Gly 435
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Pro Arg Ser Tyr Ser Val Val Glu Glu Thr Glu Gly Ser Ser Phe
35 40 45

Val Thr Asn Leu Ala Lys Asp Leu Gly Leu Glu Gln Arg Glu Phe 50 55 60

Ser Arg Arg Gly Val Arg Val Val Ser Arg Gly Asn Lys Leu His
65 70 75

Leu Gln Leu Asn Gln Glu Thr Ala Asp Leu Leu Leu Asn Glu Lys
80 85 90

Leu Asp Arg Glu Asp Leu Cys Gly His Thr Glu Pro Cys Val Leu 95 100 105

Arg Phe Gln Val Leu Leu Glu Ser Pro Phe Glu Phe Phe Gln Ala 110 115 120

Glu Leu Gln Val Ile Asp Ile Asn Asp His Ser Pro Val Phe Leu 125 130 135

Asp Lys Gln Met Leu Val Lys Val Ser Glu Ser Ser Pro Pro Gly 140 145 150

Thr Thr Phe Pro Leu Lys Asn Ala Glu Asp Leu Asp Val Gly Gln
155 160 165

Asn Asn Ile Glu Asn Tyr Ile Ile Ser Pro Asn Ser Tyr Phe Arg 170 175 180

Val Leu Thr Arg Lys Arg Ser Asp Gly Arg Lys Tyr Pro Glu Leu 185 190 195

Val Leu Asp Lys Ala Leu Asp Arg Glu Glu Glu Ala Glu Leu Arg 200 205 210

Leu Thr Leu Thr Ala Leu Asp Gly Gly Ser Pro Pro Arg Ser Gly 215 220 225

Thr Ala Gln Val Tyr Ile Glu Val Leu Asp Val Asn Asp Asn Ala

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Asp Thr Gly	Val As	_	Glu	Ile	Ser	Tyr 280	Ser	Leu	Phe	Gln	Ala 285
Ser Glu Glu	Ile Gl		Thr	Phe	Lys	Ile 295	Asn	Pro	Leu	Thr	Gly 300
Glu Ile Glu	Leu Ly		Gln	Leu	Asp	Phe 310	Glu	Lys	Leu	Gln	Ser 315
Tyr Glu Val	Asn Il		Ala	Arg	Asp	Ala 325	Gly	Thr	Phe	Ser	Gly 330
Lys Cys Thr	Val Le		Gln	Val	Ile	Asp 340	Val	Asn	Asp	His	Ala 345
Pro Glu Val	Thr Me		Ala	Phe	Thr	Ser 355	Pro	Ile	Pro	Glu	Asn 360
Ala Pro Glu	Thr Va		Ala	Leu	Phe	Ser 370	Val	Ser	Asp	Leu	Asp 375
Ser Gly Glu	Asn Gl		Ile	Ser	Суз	Ser 385	Ile	Gln	Glu	Asp	Leu 390
Ser Gly Glu Pro Phe Leu	38	o s Ser				385					390
_	Leu Ly	s Ser 5 p Arg	Ala	Glu	Asn	385 Phe 400	Tyr	Thr	Leu	Leu	390 Thr 405
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Pro Phe Leu Glu Arg Pro	Leu Ly 39 Leu As 41 Thr As 42	ss Ser sp Arg o sp Leu sp Leu	Ala Glu Gly	Glu Ser Thr	Asn Arg Pro	385 Phe 400 Ala 415 Met 430	Tyr Glu Leu	Thr Tyr Ile	Leu Asn Thr	Leu Ile Gln	390 Thr 405 Thr 420 Leu 435
Pro Phe Leu Glu Arg Pro Ile Thr Val	Leu Ly 39 Leu As 41 Thr As 42 Val Le 44	sp Arg by Leu by Leu cu Ile cu Tyr	Ala Glu Gly Ala	Glu Ser Thr	Asn Arg Pro	385 Phe 400 Ala 415 Met 430 Asn 445	Tyr Glu Leu Asp	Thr Tyr Ile Asn	Leu Asn Thr	Leu Ile Gln Pro	390 Thr 405 Thr 420 Leu 435 Ala 450
Pro Phe Leu Glu Arg Pro Ile Thr Val Asn Met Thr	Leu Ly 39 Leu As 41 Thr As 42 Val Le 44 Thr Se 45	ss Ser p Arg p Leu p Leu sp Le	Ala Glu Gly Ala Thr	Glu Ser Thr Asp	Asn Arg Pro Val	385 Phe 400 Ala 415 Met 430 Asn 445 Val 460	Tyr Glu Leu Asp	Thr Tyr Ile Asn Glu	Leu Asn Thr Ala Asn	Leu Ile Gln Pro	390 Thr 405 Thr 420 Leu 435 Ala 450 Ser 465
Pro Phe Leu Glu Arg Pro Ile Thr Val Asn Met Thr Phe Thr Gln	Leu Ly 39 Leu As 41 Thr As 42 Val Le 44 Thr Se 45 His II	s Ser p Arg p Leu p Leu p Tyr p Arg n Val	Ala Glu Gly Ala Thr	Glu Ser Thr Asp Leu Val	Asn Arg Pro Val Phe Ser	385 Phe 400 Ala 415 Met 430 Asn 445 Val 460 Ala 475	Tyr Glu Leu Asp Arg	Thr Tyr Ile Asn Glu Asp	Leu Asn Thr Ala Asn	Leu Ile Gln Pro Asn	390 Thr 405 Thr 420 Leu 435 Ala 450 Ser 465 Ser 480
Pro Phe Leu Glu Arg Pro Ile Thr Val Asn Met Thr Phe Thr Gln Pro Ala Leu	Leu Ly 39 Leu As 41 Thr As 42 Val Le 44 Thr Se 45 His II 47 Ala Gl	ss Ser p Arg p Leu p Leu p Tyr p Arg p Val	Ala Glu Gly Ala Thr Ser	Glu Ser Thr Asp Leu Val	Asn Arg Pro Val Phe Ser	385 Phe 400 Ala 415 Met 430 Asn 445 Val 460 Ala 475 Leu 490	Tyr Glu Leu Asp Arg Thr	Thr Tyr Ile Asn Glu Asp	Leu Asn Thr Ala Asn Arg	Leu Ile Gln Pro Asn Asp Gln	390 Thr 405 Thr 420 Leu 435 Ala 450 Ser 465 Ser 480 Asp 495

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 cggtcgacga ccgccccgcg tcatgcggct cctcggctgg tggcaagtat 150
 tgctgtgggt gctgggactt cccgtccgcg gcgtggaggt tgcagaggaa 200
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Glu Gln Pro Ala His Pro Leu Gln Val Gly Ala Val Tyr Leu Gly
50 55 60

Glu Glu Glu Leu His Asp Pro Met Gly Gln Asp Arg Ala Ala 65 70 75

Glu Glu Ala Asn Ala Val Leu Gly Leu Asp Thr Gln Gly Asp His

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Asp Ser Arg	Cys Asn V 125	al Arg	Glu S	Ser Leu 130	Phe	Ser	Leu	Asp	Gly 135
Ala Gly Ala	His Phe F	Pro Asp	Arg (Glu Glu 145	Glu	Tyr	Tyr	Thr	Glu 150
Pro Glu Val	Ala Glu S 155	Ser Asp	Ala <i>F</i>	Ala Pro 160	Thr	Glu	Asp	Ser	Asn 165
Asn Thr Glu	Ser Leu I 170	ys Ser	Pro I	Lys Val 175	Asn	Cys	Glu	Glu	Arg 180
Asn Ile Thr	Gly Leu G 185	Glu Asn	Phe T	Thr Leu 190	Lys	Ile	Leu	Asn	Met 195
Ser Gln Asp	Leu Met A	Asp Phe	Leu P	Asn Pro 205	Asn	Gly	Ser	Asp	Cys 210
Thr Leu Val	Leu Phe T 215	yr Thr	Pro T	Trp Cys 220	Arg	Phe	Ser	Ala	Ser 225
Leu Ala Pro	His Phe A	Asn Ser	Leu I	Pro Arg 235	Ala	Phe	Pro	Ala	Leu 240
His Phe Leu	Ala Leu A 245	Asp Ala	Ser (Gln His 250	Ser	Ser	Leu	Ser	Thr 255
Arg Phe Gly	Thr Val A	Ala Val	Pro A	Asn Ile 265	Leu	Leu	Phe	Gln	Gly 270
Ala Lys Pro	Met Ala A 275	Arg Phe	Asn H	His Thr 280	Asp .	Arg	Thr	Leu	Glu 285
Thr Leu Lys	Ile Phe I 290	le Phe	Asn (Gln Thr 295	Gly	Ile	Glu	Ala	Lys 300
Lys Asn Val	Val Val T 305	hr Gln	Ala <i>I</i>	Asp Gln 310	Ile	Gly	Pro	Leu	Pro 315
Ser Thr Leu	Ile Lys S 320	Ser Val	Asp 7	rp Leu 325	Leu	Val	Phe	Ser	Leu 330
Phe Phe Leu	Ile Ser E 335	Phe Ile	Met 1	Tyr Ala 340	Thr	Ile	Arg	Thr	Glu 345
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<213> Homo sapiens

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His Cys Cys Leu Gly Ser Ala Arg Gly Leu Phe Leu Phe Gly Gln 20 25 30

Pro Asp Phe Ser Tyr Lys Arg Ser Asn Cys Lys Pro Ile Pro Val 35 40 45

Asn Leu Gln Leu Cys His Gly Ile Glu Tyr Gln Asn Met Arg Leu
50 55 60

Pro Asn Leu Gly His Glu Thr Met Lys Glu Val Leu Glu Gln 65 70 75

Ala Gly Ala Trp Ile Pro Leu Val Met Lys Gln Cys His Pro Asp 80 85 90

Thr Lys Lys Phe Leu Cys Ser Leu Phe Ala Pro Val Cys Leu Asp 95 100

Asp Leu Asp Glu Thr Ile Gln Pro Cys His Ser Leu Cys Val Gln 110 115 120

Val Lys Asp Arg Cys Ala Pro Val Met Ser Ala Phe Gly Phe Pro 125 130 135

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Leu Cys Ile Pro Leu Ala Ser Ser Asp His Leu Leu Pro Ala Thr
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 Glu Glu Ala Pro Lys Val Cys Glu Ala Cys Lys Asn Lys Asn Asp
Asp Asp Asn Asp Ile Met Glu Thr Leu Cys Lys Asn Asp Phe Ala
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Leu Lys Ile Lys Val Lys Glu Ile Thr Tyr Ile Asn Arg Asp Thr
Lys Ile Ile Leu Glu Thr Lys Ser Lys Thr Ile Tyr Lys Leu Asn
Gly Val Ser Glu Arg Asp Leu Lys Lys Ser Val Leu Trp Leu Lys
Asp Ser Leu Gln Cys Thr Cys Glu Glu Met Asn Asp Ile Asn Ala
 Pro Tyr Leu Val Met Gly Gln Lys Gln Gly Gly Glu Leu Val Ile
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<211> 560

<212> PRT

<213> Homo sapiens

<400> 420

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35 40 45

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Gly Val Leu Gly Pro Ser Thr Ala Thr Pro Glu Cys Thr Ala Arg
Gly Ala Ser Leu Glu Asp Pro Arg Gly Pro Gly Ser Pro His Pro
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Ile Gly Lys Leu Ser Gln Glu Leu Gly Arg Glu Glu Arg Arg Arg 50 55 60

Gln Ala Gly Ala Ala Phe Gln Val Leu Gln Leu Pro Gln Ala Leu 65 70 75

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Arg Leu Asp Arg Glu Gln Leu Cys Arg Gln Trp Asp Pro Cys Leu 95 100 105

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Arg Thr Arg Ile Pro Leu Asp Arg Ala Leu Asp Pro Asp Thr Gly 155 160 165

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Ala Leu Asp Val Ile Val Gly Pro Asp Glu Thr Lys His Ala Glu 185 190 195

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1070

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Lys Met Asn Leu Cys Val Ile Leu Leu Ile Leu Val Phe Met Val

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His Lys Gln Arg Leu Leu Phe Ser Cys Leu Leu Trp Leu Thr Phe 110 115 120

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Thr	Asp	Pro	Val	Thr 320	Arg	Gly	Ile	Glu	Ile 325	Thr	Val	Asn	Tyr	Leu 330
Gly	Ile	Gln	Phe	Asp 335	Val	Lys	Phe	Trp	Ser 340	Gln	His	Ile	Ser	Phe 345
Ile	Leu	Val	Gly	Ile 350	Ile	Ile	Val	Thr	Ser 355	Ile	Arg	Gly	Leu	Leu 360
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Ser	Asn	Val	Ile	Val 380	Leu	Leu	Leu	Ala	Gln 385	Ile	Met	Gly	Met	Tyr 390
Phe	Val	Ser	Ser	Val 395	Leu	Leu	Ile	Arg	Met 400	Ser	Met	Pro	Leu	Glu 405
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Ala Val Ala Phe Asn Leu Asp Val Met Gly Ala Leu Arg Lys Glu 35 40 45

Gly Glu Pro Gly Ser Leu Phe Gly Phe Ser Val Ala Leu His Arg
50 55 60

Gln Leu Gln Pro Arg Pro Gln Ser Trp Leu Leu Val Gly Ala Pro $65 \hspace{1cm} 70 \hspace{1cm} 75$

Gln Ala Leu Ala Leu Pro Gly Gln Gln Ala Asn Arg Thr Gly Gly

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Val	Asp	Ile	Asp	Gln 110	Gly	Ala	Asp	Met	Gln 115	Lys	Glu	Ser	Lys	Glu 120
Asn	Gln	Trp	Leu	Gly 125	Val	Ser	Val	Arg	Ser 130	Gln	Gly	Pro	Gly	Gly 135
Lys	Ile	Val	Thr	Cys 140	Ala	His	Arg	Tyr	Glu 145	Ala	Arg	Gln	Arg	Val 150
Asp	Gln	Ile	Leu	Glu 155	Thr	Arg	Asp	Met	Ile 160	Gly	Arg	Cys	Phe	Val 165
Leu	Ser	Gln	Asp	Leu 170	Ala	Ile	Arg	Asp	Glu 175	Leu	Asp	Gly	Gly	Glu 180
Trp	Lys	Phe	Суѕ	Glu 185	Gly	Arg	Pro	Gln	Gly 190	His	Glu	Gln	Phe	Gly 195
Phe	Cys	Gln	Gln	Gly 200	Thr	Ala	Ala	Ala	Phe 205	Ser	Pro	Asp	Ser	His 210
Tyr	Leu	Leu	Phe	Gly 215	Ala	Pro	Gly	Thr	Tyr 220	Asn	Trp	Lys	Gly	Thr 225
Ala	Arg	Val	Glu	Leu 230	Cys	Ala	Gln	Gly	Ser 235	Ala	Asp	Leu	Ala	His 240
Leu	Asp	Asp	Gly	Pro 245	Tyr	Glu	Ala	Gly	Gly 250	Glu	Lys	Glu	Gln	Asp 255
Pro	Arg	Leu	Ile	Pro 260	Val	Pro	Ala	Asn	Ser 265	Tyr	Phe	Gly	Phe	Ser 270
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Val	Ala	Gly	Ala	Pro 290	Arg	Ala	Asn	His	Lys 295	Gly	Ala	Val	Val	Ile 300
Leu	Arg	Lys	Asp	Ser 305	Ala	Ser	Arg	Leu	Val 310	Pro	Glu	Val	Met	Leu 315
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Ala	Asp	Leu	Asn	Ser 335	Asp	Gly	Trp	Pro	Asp 340	Leu	Ile	Val	Gly	Ala 345
Pro	Tyr	Phe	Phe	Glu 350	Arg	Gln	Glu	Glu	Leu 355	Gly	Gly	Ala	Val	Tyr 360
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Arg Leu Cys Gly Ser Pro Asp Ser Met Phe Gly Ile Ser Leu Ala Val Leu Gly Asp Leu Asn Gln Asp Gly Phe Pro Asp Ile Ala Val 395 Gly Ala Pro Phe Asp Gly Asp Gly Lys Val Phe Ile Tyr His Gly 415 Ser Ser Leu Gly Val Val Ala Lys Pro Ser Gln Val Leu Glu Gly 435 Glu Ala Val Gly Ile Lys Ser Phe Gly Tyr Ser Leu Ser Gly Ser Leu Asp Met Asp Gly Asn Gln Tyr Pro Asp Leu Leu Val Gly Ser Leu Ala Asp Thr Ala Val Leu Phe Arg Ala Arg Pro Ile Leu His 470 Val Ser His Glu Val Ser Ile Ala Pro Arg Ser Ile Asp Leu Glu 485 Gln Pro Asn Cys Ala Gly Gly His Ser Val Cys Val Asp Leu Arg Val Cys Phe Ser Tyr Ile Ala Val Pro Ser Ser Tyr Ser Pro Thr Val Ala Leu Asp Tyr Val Leu Asp Ala Asp Thr Asp Arg Arg Leu 535 Arg Gly Gln Val Pro Arg Val Thr Phe Leu Ser Arg Asn Leu Glu Glu Pro Lys His Gln Ala Ser Gly Thr Val Trp Leu Lys His Gln His Asp Arg Val Cys Gly Asp Ala Met Phe Gln Leu Gln Glu Asn Val Lys Asp Lys Leu Arg Ala Ile Val Val Thr Leu Ser Tyr Ser Leu Gln Thr Pro Arg Leu Arg Arg Gln Ala Pro Gly Gln Gly Leu 605 Pro Pro Val Ala Pro Ile Leu Asn Ala His Gln Pro Ser Thr Gln Arg Ala Glu Ile His Phe Leu Lys Gln Gly Cys Gly Glu Asp Lys 635 Ile Cys Gln Ser Asn Leu Gln Leu Val His Ala Arg Phe Cys Thr Arg Val Ser Asp Thr Glu Phe Gln Pro Leu Pro Met Asp Val Asp

				665					670					675
Gly	Thr	Thr	Ala	Leu 680	Phe	Ala	Leu	Ser	Gly 685	Gln	Pro	Val	Ile	Gly 690
Leu	Glu	Leu	Met	Val 695	Thr	Asn	Leu	Pro	Ser 700	Asp	Pro	Ala	Gln	Pro 705
Gln	Ala	Asp	Gly	Asp 710	Asp	Ala	His	Glu	Ala 715	Gln	Leu	Leu	Val	Met 720
Leu	Pro	Asp	Ser	Leu 725	His	Tyr	Ser	Gly	Val 730	Arg	Ala	Leu	Asp	Pro 735
Ala	Glu	Lys	Pro	Leu 740	Cys	Leu	Ser	Asn	Glu 745	Asn	Ala	Ser	His	Val 750
Glu	Cys	Glu	Leu	Gly 755	Asn	Pro	Met	Lys	Arg 760	Gly	Ala	Gln	Val	Thr 765
Phe	Tyr	Leu	Ile	Leu 770	Ser	Thr	Ser	Gly	Ile 775	Ser	Ile	Glu	Thr	Thr 780
Glu	Leu	Glu	Val	Glu 785	Leu	Leu	Leu	Ala	Thr 790	Ile	Ser	Glu	Gln	Glu 795
Leu	His	Pro	Val	Ser 800	Ala	Arg	Ala	Arg	Val 805	Phe	Ile	Glu	Leu	Pro 810
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Gly	Val	Val	Arg	Gly 830	Glu	Arg	Ala	Met	Gln 835	Ser	Glu	Arg	Asp	Val 840
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Ser	Leu	Arg	Thr	Leu 860	Gly	Ser	Ala	Phe	Leu 865	Asn	Ile	Met	Trp	Pro 870
His	Glu	Ile	Ala	Asn 875	Gly	Lys	Trp	Leu	Leu 880	Tyr	Pro	Met	Gln	Val 885
Glu	Leu	Glu	Gly	Gly 890	Gln	Gly	Pro	Gly	Gln 895	Lys	Gly	Leu	Cys	Ser 900
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Arg	Arg	Arg	Glu	Leu 920	Glu	Pro	Pro	Glu	Gln 925	Gln	Glu	Pro	Gly	Glu 930
Arg	Gln	Glu	Pro	Ser 935	Met	Ser	Trp	Trp	Pro 940	Val	Ser	Ser	Ala	Glu 945
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<223> Synthetic oligonucleotide probe

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 Ile Thr Val Lys Ser Ser Ile Lys Asn Leu Met Leu Arg Asp Ala
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 Ser Thr Val Ile Pro Val Met Val Tyr Leu Asp Pro Met Ala Val
Val Ala Glu Gly Val Pro Trp Trp Val Ile Leu Leu Ala Val Leu
                                    1045
                1040
Ala Gly Leu Leu Val Leu Ala Leu Leu Val Leu Leu Trp Lys
                                    1060
Met Gly Phe Phe Lys Arg Ala Lys His Pro Glu Ala Thr Val Pro
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 Gln Tyr His Ala Val Lys Ile Pro Arg Glu Asp Arg Gln Gln Phe
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                1085
 Lys Glu Glu Lys Thr Gly Thr Ile Leu Arg Asn Asn Trp Gly Ser
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                                                        1110
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<211> 436

<212> PRT

<213> Homo sapiens

<400> 442

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Thr Thr Ile Ser Gln Tyr Asp Lys Glu Val Gly Gln Trp Asn Lys

	50		55			60
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Gly Lys Pro Phe	Asp Gln 2	Ala Leu	Asp Pro 85	Ala Lys	Asp Pro	Cys 90
Leu Lys Met Lys	S Cys Ser 2 95	Arg His	Lys Val 100	Cys Ile	Ala Gln	Asp 105
Ser Gln Thr Ala	a Val Cys 110	Ile Ser	His Arg 115	Arg Leu	Thr His	Arg 120
Met Lys Glu Ala	a Gly Val 2 125	Asp His	Arg Gln 130	Trp Arg	Gly Pro	Ile 135
Leu Ser Thr Cy	S Lys Gln (Cys Pro	Val Val 145	Tyr Pro	Ser Pro	Val 150
Cys Gly Ser As	Gly His 1	Thr Tyr	Ser Phe 160	Gln Cys	Lys Leu	Glu 165
Tyr Gln Ala Cy	s Val Leu 170	Gly Lys	Gln Ile 175	Ser Val	Lys Cys	Glu 180
Gly His Cys Pro	Cys Pro 185	Ser Asp	Lys Pro 190	Thr Ser	Thr Ser	Arg 195
Asn Val Lys Ar	g Ala Cys 200	Ser Asp	Leu Glu 205	Phe Arg	Glu Val	Ala 210
Asn Arg Leu Ar	g Asp Trp 215	Phe Lys	Ala Leu 220	His Glu	Ser Gly	Ser 225
Gln Asn Lys Ly	s Thr Lys 230	Thr Leu	Leu Arg 235	Pro Glu	Arg Ser	Arg 240
Phe Asp Thr Se	r Ile Leu 245	Pro Ile	Cys Lys 250	Asp Ser	Leu Gly	Trp 255
Met Phe Asn Ar	g Leu Asp 260	Thr Asn	Tyr Asp 265	Leu Leu	Leu Asp	Gln 270
Ser Glu Leu Ar	g Ser Ile 275	Tyr Leu	Asp Lys 280	Asn Glu	Gln Cys	Thr 285
Lys Ala Phe Ph	e Asn Ser 290	Cys Asp	Thr Tyr 295	Lys Asp	Ser Leu	Ile 300
Ser Asn Asn Gl	ı Trp Cys 305	Tyr Cys	Phe Gln 310	Arg Gln	Gln Asp	Pro 315
Pro Cys Gln Th	r Glu Leu 320	Ser Asn	Ile Gln 325	Lys Arg	Gln Gly	Val 330
Lys Lys Leu Le	u Gly Gln 335	Tyr Ile	Pro Leu 340	Cys Asp	Glu Asp	Gly 345

<213> Homo sapiens

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Gly Val Ala Asp Cys Ala Ile Asp Phe Glu Ile Ser Gly Asp Phe
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Ala Ser Gly Asp Phe His Glu Trp Thr Asp Asp Glu Asp Asp Glu
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<211> 229

<212> PRT

<213> Homo sapiens

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Ser Leu Asp Ser Asp Phe Thr Phe Thr Leu Pro Ala Gly Gln Lys 35 40 45

Glu Cys Phe Tyr Gln Pro Met Pro Leu Lys Ala Ser Leu Glu Ile
50 55 60

Glu Tyr Gln Val Leu Asp Gly Ala Gly Leu Asp Ile Asp Phe His 657075

Leu Ala Ser Pro Glu Gly Lys Thr Leu Val Phe Glu Gln Arg Lys 80 85 90

Ser Asp Gly Val His Thr Val Glu Thr Glu Val Gly Asp Tyr Met $95 \\ 100 \\ 105$

Phe Cys Phe Asp Asn Thr Phe Ser Thr Ile Ser Glu Lys Val Ile

110 115 120 Phe Phe Glu Leu Ile Leu Asp Asn Met Gly Glu Gln Ala Gln Glu Gln Glu Asp Trp Lys Lys Tyr Ile Thr Gly Thr Asp Ile Leu Asp 150 140 Met Lys Leu Glu Asp Ile Leu Glu Ser Ile Asn Ser Ile Lys Ser Arg Leu Ser Lys Ser Gly His Ile Gln Ile Leu Leu Arg Ala Phe 180 Glu Ala Arg Asp Arg Asn Ile Gln Glu Ser Asn Phe Asp Arg Val 185 Asn Phe Trp Ser Met Val Asn Leu Val Val Met Val Val Val Ser 200 Ala Ile Gln Val Tyr Met Leu Lys Ser Leu Phe Glu Asp Lys Arg Lys Ser Arg Thr <210> 448 <211> 23 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 448 cccagcaggg ctgggcgaca aga 23 <210> 449 <211> 23 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 449 gtcttccagt ttcatatcca ata 23 <210> 450 <211> 43 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 450 ccagaaggag cacggggaag ggcagccaga tcttgtcgcc cat 43

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- Lys Glu Leu Pro Ser Pro Arg Ile Ser Cys Pro Lys Gly Ser Lys 35 40 45
- Ala Tyr Gly Ser Pro Cys Tyr Ala Leu Phe Leu Ser Pro Lys Ser

Trp Met Asp Ala Asp Leu Ala Cys Gln Lys Arg Pro Ser Gly Lys
65 70 75

Leu Val Ser Val Leu Ser Gly Ala Glu Gly Ser Phe Val Ser Ser

Leu Val Arg Ser Ile Ser Asn Ser Tyr Ser Tyr Ile Trp Ile Gly 95 100 105

Leu His Asp Pro Thr Gln Gly Ser Glu Pro Asp Gly Asp Gly Trp
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Glu Trp Ser Ser Thr Asp Val Met Asn Tyr Phe Ala Trp Glu Lys 125 130 135

Asn Pro Ser Thr Ile Leu Asn Pro Gly His Cys Gly Ser Leu Ser 140 145 150

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<211> 125

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<213> Homo sapiens

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Pro Pro Pro Leu Gly Gly Ala Ala Gly His Pro Gly Ser Ala Val 50 55 60

Ser Ala Ala Pro Gly Ile Leu Tyr Pro Gly Gly Asn Lys Tyr Gln 65 70 75

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Cys Gly Thr Asp Glu Tyr Cys Ala Ser Pro Thr Arg Gly Gly Asp
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Ala Gly Val Gln Ile Cys Leu Ala Cys Arg Lys Arg Lys Arg
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                 110
Cys Met Arg His Ala Met Cys Cys Pro Gly Asn Tyr Cys Lys Asn
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Gly Ile Cys Val Ser Ser Asp Gln Asn His Phe Arg Gly Glu Ile
Glu Glu Thr Ile Thr Glu Ser Phe Gly Asn Asp His Ser Thr Leu
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Asp Gly Tyr Ser Arg Arg Thr Thr Leu Ser Ser Lys Met Tyr His
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Thr Lys Gly Gln Glu Gly Ser Val Cys Leu Arg Ser Ser Asp Cys
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Ala Ser Gly Leu Cys Cys Ala Arg His Phe Trp Ser Lys Ile Cys
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Lys Pro Val Leu Lys Glu Gly Gln Val Cys Thr Lys His Arg Arg
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Lys Gly Ser His Gly Leu Glu Ile Phe Gln Arg Cys Tyr Cys Gly
Glu Gly Leu Ser Cys Arg Ile Gln Lys Asp His His Gln Ala Ser
Asn Ser Ser Arg Leu His Thr Cys Gln Arg His
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<212> DNA

<213> Homo sapiens

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<211> 747

<212> PRT

<213> Homo sapiens

<400> 459

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Arg Ile Ile Leu Cys Phe Leu Ile Val Tyr Met Ala Ile Leu Val 20 25 30

Gly Thr Asp Gln Asp Phe Tyr Ser Leu Leu Gly Val Ser Lys Thr 35 40 45

Ala Ser Ser Arg Glu Ile Arg Gln Ala Phe Lys Lys Leu Ala Leu 50 55 60

Lys Leu His Pro Asp Lys Asn Pro Asn Asn Pro Asn Ala His Gly 65 70 75

Asp Phe Leu Lys Ile Asn Arg Ala Tyr Glu Val Leu Lys Asp Glu 80 85 90

Asp Leu Arg Lys Lys Tyr Asp Lys Tyr Gly Glu Lys Gly Leu Glu 95 100 105

Asp Asn Gln Gly Gly Gln Tyr Glu Ser Trp Asn Tyr Tyr Arg Tyr 110 115 120

Asp Phe Gly Ile Tyr Asp Asp Pro Glu Ile Ile Thr Leu Glu 125 130 135

Arg Arg Glu Phe Asp Ala Ala Val Asn Ser Gly Glu Leu Trp Phe 140 145 150

Val Asn Phe Tyr Ser Pro Gly Cys Ser His Cys His Asp Leu Ala 155 160 165

Pro Thr Trp Arg Asp Phe Ala Lys Glu Val Asp Gly Leu Leu Arg 170 175 180

Ile Gly Ala Val Asn Cys Gly Asp Asp Arg Met Leu Cys Arg Met 185 190 195

Lys Gly Val Asn Ser Tyr Pro Ser Leu Phe Ile Phe Arg Ser Gly

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Met	Ala	Pro	Val	Lys 215	Tyr	His	Gly	Asp	Arg 220	Ser	Lys	Glu	Ser	Leu 225
Val	Ser	Phe	Ala	Met 230	Gln	His	Val	Arg	Ser 235	Thr	Val	Thr	Glu	Leu 240
Trp	Thr	Gly	Asn	Phe 245	Val	Asn	Ser	Ile	Gln 250	Thr	Ala	Phe	Ala	Ala 255
Gly	Ile	Gly	Trp	Leu 260	Ile	Thr	Phe	Cys	Ser 265	Lys	Gly	Gly	Asp	Cys 270
Leu	Thr	Ser	Gln	Thr 275	Arg	Leu	Arg	Leu	Ser 280	Gly	Met	Leu	Phe	Leu 285
Asn	Ser	Leu	Asp	Ala 290	Lys	Glu	Ile	Tyr	Leu 295	Glu	Val	Ile	His	Asn 300
Leu	Pro	Asp	Phe	Glu 305	Leu	Leu	Ser	Ala	Asn 310	Thr	Leu	Glu	Asp	Arg 315
Leu	Ala	His	His	Arg 320	Trp	Leu	Leu	Phe	Phe 325	His	Phe	Gly	Lys	Asn 330
Glu	Asn	Ser	Asn	Asp 335	Pro	Glu	Leu	Lys	Lys 340	Leu	Lys	Thr	Leu	Leu 345
Lys	Asn	Asp	His	Ile 350	Gln	Val	Gly	Arg	Phe 355	Asp	Cys	Ser	Ser	Ala 360
Pro	Asp	Ile	Суз	Ser 365	Asn	Leu	Tyr	Val	Phe 370	Gln	Pro	Ser	Leu	Ala 375
Val	Phe	Lys	Gly	Gln 380	Gly	Thr	Lys	Glu	Tyr 385	Glu	Ile	His	His	Gly 390
Lys	Lys	Ile	Leu	Tyr 395	Asp	Ile	Leu	Ala	Phe 400	Ala	Lys	Glu	Ser	Val 405
Asn	Ser	His	Val	Thr 410	Thr	Leu	Gly	Pro	Gln 415	Asn	Phe	Pro	Ala	Asn 420
Asp	Lys	Glu	Pro	Trp 425	Leu	Val	Asp	Phe	Phe 430	Ala	Pro	Trp	Cys	Pro 435
Pro	Cys	Arg	Ala	Leu 440	Leu	Pro	Glu	Leu	Arg 445	Arg	Ala	Ser	Asn	Leu 450
Leu	Tyr	Gly	Gln	Leu 455	Lys	Phe	Gly	Thr	Leu 460	Asp	Cys	Thr	Val	His 465
Glu	Gly	Leu	Cys	Asn 470	Met	Tyr	Asn	Ile	Gln 475	Ala	Tyr	Pro	Thr	Thr 480
Val	Val	Phe	Asn	Gln 485	Ser	Asn	Ile	His	Glu 490	Tyr	Glu	Gly	His	His 495

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Ser Val Val Ser Leu Thr Pro Thr Thr Phe Asn Glu Leu Val Thr
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Gln Arg Lys His Asn Glu Val Trp Met Val Asp Phe Tyr Ser Pro
                 530
Trp Cys His Pro Cys Gln Val Leu Met Pro Glu Trp Lys Arg Met
                                     550
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Ala Arg Thr Leu Thr Gly Leu Ile Asn Val Gly Ser Ile Asp Cys
Gln Gln Tyr His Ser Phe Cys Ala Gln Glu Asn Val Gln Arg Tyr
                                                          585
                 575
 Pro Glu Ile Arg Phe Phe Pro Pro Lys Ser Asn Lys Ala Tyr Gln
                 590
 Tyr His Ser Tyr Asn Gly Trp Asn Arg Asp Ala Tyr Ser Leu Arg
 Ile Trp Gly Leu Gly Phe Leu Pro Gln Val Ser Thr Asp Leu Thr
                                     625
 Pro Gln Thr Phe Ser Glu Lys Val Leu Gln Gly Lys Asn His Trp
 Val Ile Asp Phe Tyr Ala Pro Trp Cys Gly Pro Cys Gln Asn Phe
 Ala Pro Glu Phe Glu Leu Leu Ala Arg Met Ile Lys Gly Lys Val
Lys Ala Gly Lys Val Asp Cys Gln Ala Tyr Ala Gln Thr Cys Gln
 Lys Ala Gly Ile Arg Ala Tyr Pro Thr Val Lys Phe Tyr Phe Tyr
 Glu Arg Ala Lys Arg Asn Phe Gln Glu Glu Gln Ile Asn Thr Arg
 Asp Ala Lys Ala Ile Ala Ala Leu Ile Ser Glu Lys Leu Glu Thr
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<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

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<400> 461
 gatcagccag ccaataccag cagc 24
<210> 462
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 462
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<210> 463
<211> 1818
<212> DNA
<213> Homo sapiens
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 caccatcatc tactcctact tggagtcgtt ggtgaagttt ttcattcctc 150
 agaggagaaa atctgtggct ggggagattg ttctcattac tggagctggg 200
 catggaatag gcaggcagac tacttatgaa tttgcaaaac gacagagcat 250
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 agtgccgaaa actaggcgtc actgcgcatg cgtatgtggt agactgcagc 350
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 tgatgtaaca atcgtggtga ataatgctgg gacagtatat ccagccgatc 450
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 ctaggacatt tttggatcac aaaagcactt cttccatcga tgatggagag 550
 aaatcatggc cacatcgtca cagtggcttc agtgtgcggc cacgaaggga 600
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 cacagaggtc tgacatcaga acttcaggcc ttgggaaaaa ctggtatcaa 700
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<210> 464

<211> 300

<212> PRT

<213> Homo sapiens

<400> 464

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<210> 465

<211> 1547

<212> DNA

<213> Homo sapiens

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<210> 466

<211> 414

<212> PRT

<213> Homo sapiens

<400> 466

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Val Phe Met Ile Leu Leu Ile Ile Val Tyr Trp Asp Ser Ala Gly
20 25 30

Ala Ala His Phe Tyr Leu His Thr Ser Phe Ser Arg Pro His Thr 35 40 45

Gly Pro Pro Leu Pro Thr Pro Gly Pro Asp Arg Asp Arg Glu Leu 50 55 60

Thr Ala Asp Ser Asp Val Asp Glu Phe Leu Asp Lys Phe Leu Ser 65 70 75

Ala Gly Val Lys Gln Ser Asp Leu Pro Arg Lys Glu Thr Glu Gln 80 85 90

Pro Pro Ala Pro Gly Ser Met Glu Glu Ser Val Arg Gly Tyr Asp 95 100 105

Trp Ser Pro Arg Asp Ala Arg Arg Ser Pro Asp Gln Gly Arg Gln 110 115 120

Gln Ala Glu Arg Arg Ser Val Leu Arg Gly Phe Cys Ala Asn Ser 125 130 135

Ser Leu Ala Phe Pro Thr Lys Glu Arg Ala Phe Asp Asp Ile Pro 140 145 150

Asn Ser Glu Leu Ser His Leu Ile Val Asp Asp Arg His Gly Ala 155 160 165

Ile Tyr Cys Tyr Val Pro Lys Val Ala Cys Thr Asn Trp Lys Arg 170 175 180

Val Met Ile Val Leu Ser Gly Ser Leu Leu His Arg Gly Ala Pro 185 190 195

Tyr Arg Asp Pro Leu Arg Ile Pro Arg Glu His Val His Asm Ala 200 205 210

Ser Ala His Leu Thr Phe Asn Lys Phe Trp Arg Arg Tyr Gly Lys 215 220 225

Leu Ser Arg His Leu Met Lys Val Lys Leu Lys Lys Tyr Thr Lys 230 235 240

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Phe Leu Phe Val Arg Asp Pro Phe Val Arg Leu Ile Ser Ala Phe
Arg Ser Lys Phe Glu Leu Glu Asn Glu Glu Phe Tyr Arg Lys Phe
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Ala Val Pro Met Leu Arg Leu Tyr Ala Asn His Thr Ser Leu Pro
                275
Ala Ser Ala Arg Glu Ala Phe Arg Ala Gly Leu Lys Val Ser Phe
                                                         300
                290
Ala Asn Phe Ile Gln Tyr Leu Leu Asp Pro His Thr Glu Lys Leu
                                    310
Ala Pro Phe Asn Glu His Trp Arg Gln Val Tyr Arg Leu Cys His
                                                         330
Pro Cys Gln Ile Asp Tyr Asp Phe Val Gly Lys Leu Glu Thr Leu
                335
Asp Glu Asp Ala Ala Gln Leu Leu Gln Leu Gln Val Asp Arg
                350
Gln Leu Arg Phe Pro Pro Ser Tyr Arg Asn Arg Thr Ala Ser Ser
                365
Trp Glu Glu Asp Trp Phe Ala Lys Ile Pro Leu Ala Trp Arg Gln
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Pro Lys Pro Glu Asn Leu Leu Arg Asp
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<210> 467

<211> 1071

<212> DNA

<213> Homo sapiens

410

<400> 467
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gggggcgggc gcggcatcgg agctgggatc gtgcgcgcct tcgtgaacag 200
cggggcccga gtggttatct gcgacaagga tgagtctggg ggccgggccc 250
tggagcagga gctccctgga gctgtcttta tcctctgtga tgtgactcag 300
gaagatgatg tgaagaccct ggtttctgag accatccgcc gatttggccg 350
cctggattgt gttgtcaaca acgctggcca ccacccaccc ccacagaggc 400

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<210> 468

<211> 270

<212> PRT

<213> Homo sapiens

<400> 468

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Asn Ser Gly Ala Arg Val Val Ile Cys Asp Lys Asp Glu Ser Gly
35 40 45

Gly Arg Ala Leu Glu Gln Glu Leu Pro Gly Ala Val Phe Ile Leu 50 55 60

Cys Asp Val Thr Gln Glu Asp Asp Val Lys Thr Leu Val Ser Glu 65 70 75

Thr Ile Arg Arg Phe Gly Arg Leu Asp Cys Val Val Asn Asn Ala 80 85 90

Gly His His Pro Pro Pro Gln Arg Pro Glu Glu Thr Ser Ala Gln 95 100 105

Gly Phe Arg Gln Leu Leu Glu Leu Asn Leu Leu Gly Thr Tyr Thr 110 115 120

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Leu Thr Lys Leu Ala Leu Pro Tyr Leu Arg Lys Ser Gln Gly Asn
Val Ile Asn Ile Ser Ser Leu Val Gly Ala Ile Gly Gln Ala Gin
Ala Val Pro Tyr Val Ala Thr Lys Gly Ala Val Thr Ala Met Thr
                                                         165
Lys Ala Leu Ala Leu Asp Glu Ser Pro Tyr Gly Val Arg Val Asn
                170
Cys Ile Ser Pro Gly Asn Ile Trp Thr Pro Leu Trp Glu Glu Leu
                185
Ala Ala Leu Met Pro Asp Pro Arg Ala Thr Ile Arg Glu Gly Met
                                                         210
                200
Leu Ala Gln Pro Leu Gly Arg Met Gly Gln Pro Ala Glu Val Gly
Ala Ala Ala Val Phe Leu Ala Ser Glu Ala Asn Phe Cys Thr Gly
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Ile Glu Leu Leu Val Thr Gly Gly Ala Glu Leu Gly Tyr Gly Cys
Lys Ala Ser Arg Ser Thr Pro Val Asp Ala Pro Asp Ile Pro Ser
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<210> 469

<211> 687

<212> DNA

<400> 469

<213> Homo sapiens

260

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tgcccgccac cgccccgcac agggccttgc cgccagcgcg cagtcatgga 550

270

gaccateget gtgggetgea cetgeatett etgaateace tggeceagaa 600 geeaggeeag cageeegaga ceateeteet tgeacetttg tgeeaagaaa 650 ggeetatgaa aagtaaacae tgaettttga aageaag 687

<210> 470

<211> 180

<212> PRT

<213> Homo sapiens

<400> 470

Met Asp Trp Pro His Asn Leu Leu Phe Leu Leu Thr Ile Ser Ile
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Phe Leu Gly Leu Gly Gln Pro Arg Ser Pro Lys Ser Lys Arg Lys 20 25 30

Gly Gln Gly Arg Pro Gly Pro Leu Ala Pro Gly Pro His Gln Val 35 40 45

Pro Leu Asp Leu Val Ser Arg Met Lys Pro Tyr Ala Arg Met Glu 50 55 60

Glu Tyr Glu Arg Asn Ile Glu Glu Met Val Ala Gln Leu Arg Asn 65 70 75

Ser Ser Glu Leu Ala Gln Arg Lys Cys Glu Val Asn Leu Gln Leu 80 85 90

Trp Met Ser Asn Lys Arg Ser Leu Ser Pro Trp Gly Tyr Ser Ile 95 100 105

Asn His Asp Pro Ser Arg Ile Pro Val Asp Leu Pro Glu Ala Arg 110 115 120

Cys Leu Cys Leu Gly Cys Val Asn Pro Phe Thr Met Gln Glu Asp 125 130 135

Arg Ser Met Val Ser Val Pro Val Phe Ser Gln Val Pro Val Arg
140 145 150

Arg Arg Leu Cys Pro Pro Pro Pro Arg Thr Gly Pro Cys Arg Gln
155 160 165

Arg Ala Val Met Glu Thr Ile Ala Val Gly Cys Thr Cys Ile Phe 170 175 180

<210> 471

<211> 2368

<212> DNA

<213> Homo sapiens

<400> 471

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<210> 472

<211> 349

<212> PRT

<213> Homo sapiens

<400> 472

Met Ala Gly Gly Arg Cys Gly Pro Gln Leu Thr Ala Leu Leu Ala 1 5 10 15

Ala Trp Ile Ala Ala Val Ala Ala Thr Ala Gly Pro Glu Glu Ala 20 25 30

Ala Leu Pro Pro Glu Gln Ser Arg Val Gln Pro Met Thr Ala Ser 35 40 45

Asn Trp Thr Leu Val Met Glu Gly Glu Trp Met Leu Lys Phe Tyr
50 55 60

Ala Pro Trp Cys Pro Ser Cys Gln Gln Thr Asp Ser Glu Trp Glu
65 70 75

Ala Phe Ala Lys Asn Gly Glu Ile Leu Gln Ile Ser Val Gly Lys 80 85 90

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Val Asp Val Ile Gln Glu Pro Gly Leu Ser Gly Arg Phe Phe Val
Thr Thr Leu Pro Ala Phe Phe His Ala Lys Asp Gly Ile Phe Arg
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Arg Tyr Arg Gly Pro Gly Ile Phe Glu Asp Leu Gln Asn Tyr Ile
                125
Leu Glu Lys Lys Trp Gln Ser Val Glu Pro Leu Thr Gly Trp Lys
                140
                                    145
Ser Pro Ala Ser Leu Thr Met Ser Gly Met Ala Gly Leu Phe Ser
                                    160
Ile Ser Gly Lys Ile Trp His Leu His Asn Tyr Phe Thr Val Thr
                                                        180
                170
Leu Gly Ile Pro Ala Trp Cys Ser Tyr Val Phe Phe Val Ile Ala
                185
Thr Leu Val Phe Gly Leu Phe Met Gly Leu Val Leu Val Val Ile
                                                        210
Ser Glu Cys Phe Tyr Val Pro Leu Pro Arg His Leu Ser Glu Arg
                215
Ser Glu Gln Asn Arg Arg Ser Glu Glu Ala His Arg Ala Glu Gln
                230
Leu Gln Asp Ala Glu Glu Lys Asp Asp Ser Asn Glu Glu Glu
                245
Asn Lys Asp Ser Leu Val Asp Asp Glu Glu Lys Glu Asp Leu
Gly Asp Glu Asp Glu Ala Glu Glu Glu Glu Glu Asp Asn Leu
Ala Ala Gly Val Asp Glu Glu Arg Ser Glu Ala Asn Asp Gln Gly
                                                        300
Pro Pro Gly Glu Asp Gly Val Thr Arg Glu Glu Val Glu Pro Glu
Glu Ala Glu Glu Gly Ile Ser Glu Gln Pro Cys Pro Ala Asp Thr
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Glu Val Val Glu Asp Ser Leu Arg Gln Arg Lys Ser Gln His Ala
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Asp Lys Gly Leu

<210> 473

<211> 24

<212> DNA

<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe
<400> 474
 ctctcctcat ccacaccagc agcc 24
<210> 475
<211> 44
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 475
 gtggatgctg aaattttacg ccccatggtg tccatcctgc cagc 44
<210> 476
<211> 2478
<212> DNA
<213> Homo sapiens
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 caggggcaga aagaaaagag ctcccaaatg ctatatctat tcaggggctc 150
 tcaagaacaa tggaatatca tcctgattta gaaaatttgg atgaagatgg 200
 atatactcaa ttacacttcg actctcaaag caataccagg atagctgttg 250
 tttcagagaa aggatcgtgt gctgcatctc ctccttggcg cctcattgct 300
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 ctcaaatgaa ttgggattta tagtaaaaca agtgtcttcc caacctgata 550
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<210> 477

<211> 201

<212> PRT

<213> Homo sapiens

<400> 477

Met Glu Tyr His Pro Asp Leu Glu Asn Leu Asp Glu Asp Gly Tyr
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Thr Gln Leu His Phe Asp Ser Gln Ser Asn Thr Arg Ile Ala Val 20 25 30

Val Ser Glu Lys Gly Ser Cys Ala Ala Ser Pro Pro Trp Arg Leu 35 40 45

Ile Ala Val Ile Leu Gly Ile Leu Cys Leu Val Ile Leu Val Ile
50 55 60

Ala Val Val Leu Gly Thr Met Gly Val Leu Ser Ser Pro Cys Pro 65 70 75

Pro Asn Trp Ile Ile Tyr Glu Lys Ser Cys Tyr Leu Phe Ser Met 80 85 90

Ser Leu Asn Ser Trp Asp Gly Ser Lys Arg Gln Cys Trp Gln Leu 95 100 105

Gly Ser Asn Leu Leu Lys Ile Asp Ser Ser Asn Glu Leu Gly Phe 110 115 120

Ile Val Lys Gln Val Ser Ser Gln Pro Asp Asn Ser Phe Trp Ile 125 130 135

Gly Leu Ser Arg Pro Gln Thr Glu Val Pro Trp Leu Trp Glu Asp 140 145 150

Gly Ser Thr Phe Ser Ser Asn Leu Phe Gln Ile Arg Thr Thr Ala 155 160 165

Thr Gln Glu Asn Pro Ser Pro Asn Cys Val Trp Ile His Val Ser

180 175 170 Val Ile Tyr Asp Gln Leu Cys Ser Val Pro Ser Tyr Ser Ile Cys 185 Glu Lys Lys Phe Ser Met 200 <210> 478 <211> 27 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 478 gtccacagac agtcatctca ggagcag 27 <210> 479 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 479 acaagtgtct tcccaacctg 20 <210> 480 <211> 24 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 480 atcctcccag agccatggta cctc 24 <210> 481 <211> 51 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe ccaaggatag ctgttgtttc agagaaagga tcgtgtgctg catctcctcc 50 t 51 <210> 482 <211> 3819 <212> DNA <213> Homo sapiens

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<211> 693

<212> PRT

<213> Homo sapiens

<400> 483

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Asp Phe Arg Phe Cys Ser Gln Arg Asn Gln Thr His Arg Ser Ser 35 40 45

Leu His Tyr Lys Pro Thr Pro Asp Leu Arg Ile Ser Ile Glu Asn 50 55 60

Ser Glu Glu Ala Leu Thr Val His Ala Pro Phe Pro Ala Ala His
65 70 75

Pro Ala Ser Arg Ser Phe Pro Asp Pro Arg Gly Leu Tyr His Phe Cys Leu Tyr Trp Asn Arg His Ala Gly Arg Leu His Leu Leu Tyr Gly Lys Arg Asp Phe Leu Leu Ser Asp Lys Ala Ser Ser Leu Leu 110 Cys Phe Gln His Gln Glu Glu Ser Leu Ala Gln Gly Pro Pro Leu 135 Leu Ala Thr Ser Val Thr Ser Trp Trp Ser Pro Gln Asn Ile Ser Leu Pro Ser Ala Ala Ser Phe Thr Phe Ser Phe His Ser Pro Pro 165 155 His Thr Ala Ala His Asn Ala Ser Val Asp Met Cys Glu Leu Lys 170 Arg Asp Leu Gln Leu Leu Ser Gln Phe Leu Lys His Pro Gln Lys 185 Ala Ser Arg Arg Pro Ser Ala Ala Pro Ala Ser Gln Gln Leu Gln 200 Ser Leu Glu Ser Lys Leu Thr Ser Val Arg Phe Met Gly Asp Met 215 Val Ser Phe Glu Glu Asp Arg Ile Asn Ala Thr Val Trp Lys Leu 230 Gln Pro Thr Ala Gly Leu Gln Asp Leu His Ile His Ser Arg Gln Glu Glu Glu Gln Ser Glu Ile Met Glu Tyr Ser Val Leu Leu Pro Arg Thr Leu Phe Gln Arg Thr Lys Gly Arg Ser Gly Glu Ala Glu 275 Lys Arg Leu Leu Val Asp Phe Ser Ser Gln Ala Leu Phe Gln Asp Lys Asn Ser Ser Gln Val Leu Gly Glu Lys Val Leu Gly Ile Val Val Gln Asn Thr Lys Val Ala Asn Leu Thr Glu Pro Val Val Leu Thr Phe Gln His Gln Leu Gln Pro Lys Asn Val Thr Leu Gln Cys Val Phe Trp Val Glu Asp Pro Thr Leu Ser Ser Pro Gly His 355 Trp Ser Ser Ala Gly Cys Glu Thr Val Arg Arg Glu Thr Gln Thr

				365					370					375
Ser C	ys	Phe	Cys	Asn 380	His	Leu	Thr	Tyr	Phe 385	Ala	Val	Leu	Met	Val 390
Ser Se	er	Val	Glu	Val 395	Asp	Ala	Val	His	Lys 400	His	Tyr	Leu	Ser	Leu 405
Leu S	er	Tyr	Val	Gly 410	Cys	Val	Val	Ser	Ala 415	Leu	Ala	Cys	Leu	Val 420
Thr I	le	Ala	Ala	Tyr 425	Leu	Cys	Ser	Arg	Val 430	Pro	Leu	Pro	Cys	Arg 435
Arg L	ys	Pro	Arg	Asp 440	Tyr	Thr	Ile	Lys	Val 445	His	Met	Asn	Leu	Leu 450
Leu A	.la	Val	Phe	Leu 455	Leu	Asp	Thr	Ser	Phe 460	Leu	Leu	Ser	Glu	Pro 465
Val A	la	Leu	Thr	Gly 470	Ser	Glu	Ala	Gly	Cys 475	Arg	Ala	Ser	Ala	Ile 480
Phe L	eu	His	Phe	Ser 485	Leu	Leu	Thr	Cys	Leu 490	Ser	Trp	Met	Gly	Leu 495
Glu G	ly	Tyr	Asn	Leu 500	Tyr	Arg	Leu	Val	Val 505	Glu	Val	Phe	Gly	Thr 510
Tyr V	al.	Pro	Gly	Tyr 515	Leu	Leu	Lys	Leu	Ser 520	Ala	Met	Gly	Trp	Gly 525
Phe P	ro	Ile	Phe	Leu 530	Val	Thr	Leu	Val	Ala 535	Leu	Val	Asp	Val	Asp 540
Asn T	'yr	Gly	Pro	Ile 545	Ile	Leu	Ala	Val	His 550	Arg	Thr	Pro	Glu	Gly 555
Val I	ile	Tyr	Pro	Ser 560	Met	Cys	Trp	Ile	Arg 565	Asp	Ser	Leu	Val	Ser 570
Tyr I	[le	Thr	Asn	Leu 575	Gly	Leu	Phe	Ser	Leu 580	Val	Phe	Leu	Phe	Asn 585
Met A	Ala	Met	Leu	Ala 590	Thr	Met	Val	Val	Gln 595		Leu	Arg	Leu	Arg 600
Pro H	lis	Thr	Gln	Lys 605	Trp	Ser	His	Val	Leu 610	Thr	Leu	Leu	Gly	Leu 615
Ser I	Leu	Val	Leu	Gly 620		Pro	Trp	Ala	Leu 625	Ile	Phe	Phe	Ser	Phe 630
Ala S	Ser	Gly	Thr	Phe 635		Leu	Val	Val	Leu 640		Leu	Phe	Ser	Ile 645
Ile T	Fhr	Ser	Phe	Gln 650		Phe	Leu	Ile	Phe 655	Ile	Trp	Tyr	Trp	Ser 660

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 Ser Asp Ser Ala Arg Leu Pro Ile Ser Ser Gly Ser Thr Ser Ser
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<223> unknown base
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<211> 345

<212> PRT

<213> Homo sapiens

<400> 488

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His Glu Arg Ile Ile Thr Val Ser Thr Asn Gly Ser Ile His Ser 50 55 60

Pro Arg Phe Pro His Thr Tyr Pro Arg Asn Thr Val Leu Val Trp 65 70 75

Arg Leu Val Ala Val Glu Glu Asn Val Trp Ile Gln Leu Thr Phe
80 85 90

Asp Glu Arg Phe Gly Leu Glu Asp Pro Glu Asp Asp Ile Cys Lys 95 100 105

Tyr Asp Phe Val Glu Val Glu Glu Pro Ser Asp Gly Thr Ile Leu 110 115 120

Gly Arg Trp Cys Gly Ser Gly Thr Val Pro Gly Lys Gln Ile Ser 125 130 135

Lys Gly Asn Gln Ile Arg Ile Arg Phe Val Ser Asp Glu Tyr Phe 140 145 150

Pro Ser Glu Pro Gly Phe Cys Ile His Tyr Asn Ile Val Met Pro 155 160 165

Gln Phe Thr Glu Ala Val Ser Pro Ser Val Leu Pro Pro Ser Ala 170 175 180

Leu Pro Leu Asp Leu Leu Asn Asn Ala Ile Thr Ala Phe Ser Thr 185 190 195

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Asp Leu Glu Asp Leu Tyr Arg Pro Thr Trp Gln Leu Leu Gly Lys
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Ala Phe Val Phe Gly Arg Lys Ser Arg Val Val Asp Leu Asn Leu
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                 230
Leu Thr Glu Glu Val Arg Leu Tyr Ser Cys Thr Pro Arg Asn Phe
                 245
Ser Val Ser Ile Arg Glu Glu Leu Lys Arg Thr Asp Thr Ile Phe
Trp Pro Gly Cys Leu Leu Val Lys Arg Cys Gly Gly Asn Cys Ala
                 275
Cys Cys Leu His Asn Cys Asn Glu Cys Gln Cys Val Pro Ser Lys
                 290
Val Thr Lys Lys Tyr His Glu Val Leu Gln Leu Arg Pro Lys Thr
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 tctggatgtt ccaaagaacc atgtgatcgt ggactgcaca gacaagcatt 250
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<211> 1049

<212> PRT

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His Val Ile Val Asp Cys Thr Asp Lys His Leu Thr Glu Ile Pro
50 55 60

Gly Gly Ile Pro Thr Asn Thr Thr Asn Leu Thr Leu Thr Ile Asn 65 70 75

His Ile Pro Asp Ile Ser Pro Ala Ser Phe His Arg Leu Asp His 80 85 90

Leu Val Glu Ile Asp Phe Arg Cys Asn Cys Val Pro Ile Pro Leu 95 100 105

Gly Ser Lys Asn Asn Met Cys Ile Lys Arg Leu Gln Ile Lys Pro 110 115 120

Arg Ser Phe Ser Gly Leu Thr Tyr Leu Lys Ser Leu Tyr Leu Asp 125 130 135

Gly Asn Gln Leu Leu Glu Ile Pro Gln Gly Leu Pro Pro Ser Leu 140 145 150

Gln Leu Leu Ser Leu Glu Ala Asn Asn Ile Phe Ser Ile Arg Lys 155 160 165

Glu Asn Leu Thr Glu Leu Ala Asn Ile Glu Ile Leu Tyr Leu Gly 170 175 180

Gln Asn Cys Tyr Tyr Arg Asn Pro Cys Tyr Val Ser Tyr Ser Ile 185 190 195

Glu Lys Asp Ala Phe Leu Asn Leu Thr Lys Leu Lys Val Leu Ser 200 205 210

Leu Lys Asp Asn Asn Val Thr Ala Val Pro Thr Val Leu Pro Ser 215 220 225

Thr Leu Thr Glu Leu Tyr Leu Tyr Asn Asn Met Ile Ala Lys Ile 230 235 240

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Phe	Asp	Ala	Leu	Thr 290	Glu	Leu	Lys	Val	Leu 295	Arg	Leu	His	Ser	Asn 300
Ser	Leu	Gln	His	Val 305	Pro	Pro	Arg	Trp	Phe 310	Lys	Asn	Ile	Asn	Lys 315
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Gly	Asp	Ala	Lys	Phe 335	Leu	His	Phe	Leu	Pro 340	Ser	Leu	Ile	Gln	Leu 345
Asp	Leu	Ser	Phe	Asn 350	Phe	Glu	Leu	Gln	Val 355	Tyr	Arg	Ala	Ser	Met 360
Asn	Leu	Ser	Gln	Ala 365	Phe	Ser	Ser	Leu	Lys 370	Ser	Leu	Lys	Ile	Leu 375
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Lys	Arg	Leu	Lys	Val 425	Ile	Asp	Leu	Ser	Val 430	Asn	Lys	Ile	Ser	Pro 435
Ser	Gly	Asp	Ser	Ser 440	Glu	Val	Gly	Phe	Cys 445	Ser	Asn	Ala	Arg	Thr 450
Ser	Val	Glu	Ser	Tyr 455	Glu	Pro	Gln	Val	Leu 460	Glu	Gln	Leu	His	Tyr 465
Phe	Arg	Tyr	Asp	Lys 470	Tyr	Ala	Arg	Ser	Cys 475	Arg	Phe	Lys	Asn	Lys 480
Glu	Ala	Ser	Phe	Met 485	Ser	Val	Asn	Glu	Ser 490	Cys	Tyr	Lys	Tyr	Gly 495
Gln	Thr	Leu	Asp	Leu 500	Ser	Lys	Asn	Ser	Ile 505	Phe	Phe	Val	Lys	Ser 510
Ser	Asp	Phe	Gln	His 515	Leu	Ser	Phe	Leu	Lys 520	Cys	Leu	Asn	Leu	Ser 525
Gly	Asn	Leu	Ile	Ser 530	Gln	Thr	Leu	Asn	Gly 535	Ser	Glu	Phe	Gln	Pro 540
Leu	Ala	Glu	Leu	Arg	Tyr	Leu	Asp	Phe	Ser	Asn	Asn	Arg	Leu	Asp

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Thr	His	Met	Leu	Asn 590	Phe	Thr	Lys	Asn	Leu 595	Lys	Val	Leu	Gln	Lys 600
Leu	Met	Met	Asn	Asp 605	Asn	Asp	Ile	Ser	Ser 610	Ser	Thr	Ser	Arg	Thr 615
Met	Glu	Ser	Glu	Ser 620	Leu	Arġ	Thr	Leu	Glu 625	Phe	Arg	Gly	Asn	His 630
Leu	Asp	Val	Leu	Trp 635	Arg	Glu	Gly	Asp	Asn 640	Arg	Tyr	Leu	Gln	Leu 645
Phe	Lys	Asn	Leu	Leu 650	Lys	Leu	Glu	Glu	Leu 655	Asp	Ile	Ser	Lys	Asn 660
Ser	Leu	Ser	Phe	Leu 665	Pro	Ser	Gly	Val	Phe 670	Asp	Gly	Met	Pro	Pro 675
Asn	Leu	Lys	Asn	Leu 680	Ser	Leu	Ala	Lys	Asn 685	Gly	Leu	Lys	Ser	Phe 690
Ser	Trp	Lys	Lys	Leu 695	Gln	Суз	Leu	Lys	Asn 700	Leu	Glu	Thr	Leu	Asp 705
Leu	Ser	His	Asn	Gln 710	Leu	Thr	Thr	Val	Pro 715	Glu	Arg	Leu	Ser	Asn 720
Cys	Ser	Arg	Ser	Leu 725	Lys	Asn	Leu	Ile	Leu 730	Lys	Asn	Asn	Gln	Ile 735
Arg	Ser	Leu	Thr	Lys 740	Tyr	Phe	Leu	Gln	Asp 745	Ala	Phe	Gln	Leu	Arg 750
Tyr	Leu	Asp	Leu	Ser 755	Ser	Asn	Lys	Ile	Gln 760	Met	Ile	Gln	Lys	Thr 765
Ser	Phe	Pro	Glu	Asn 770	Val	Leu	Asn	Asn	Leu 775	Lys	Met	Leu	Leu	Leu 780
His	His	Asn	Arg	Phe 785	Leu	Cys	Thr	Cys	Asp 790		Val	Trp	Phe	Val 795
Trp	Trp	Val	Asn	His 800	Thr	Glu	Val	Thr	Ile 805		Tyr	Leu	Ala	Thr 810
_				815					820					Val 825
Ile	Ser	Leu	Asp	Leu 830	Tyr	Thr	Суз	Glu	Leu 835	Asp	Leu	Thr	Asn	Leu 840

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Tyr His Phe Cys Lys Ala Lys Ile Lys Gly Tyr Gln Arg Leu Ile
Ser Pro Asp Cys Cys Tyr Asp Ala Phe Ile Val Tyr Asp Thr Lys
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Asp Pro Ala Val Thr Glu Trp Val Leu Ala Glu Leu Val Ala Lys
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Leu Glu Asp Pro Arg Glu Lys His Phe Asn Leu Cys Leu Glu Glu
                920
Arg Asp Trp Leu Pro Gly Gln Pro Val Leu Glu Asn Leu Ser Gln
Ser Ile Gln Leu Ser Lys Lys Thr Val Phe Val Met Thr Asp Lys
Tyr Ala Lys Thr Glu Asn Phe Lys Ile Ala Phe Tyr Leu Ser His
Gln Arg Leu Met Asp Glu Lys Val Asp Val Ile Ile Leu Ile Phe
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Leu Glu Lys Pro Phe Gln Lys Ser Lys Phe Leu Gln Leu Arg Lys
Arg Leu Cys Gly Ser Ser Val Leu Glu Trp Pro Thr Asn Pro Gln
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<211> 4199

<212> DNA

<213> Homo sapiens

<400> 497

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<211> 1041

<212> PRT

<213> Homo sapiens

<400> 498

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n Phe \$20\$ \$25\$ 30

Ser Arg Ser Tyr Pro Cys Asp Glu Lys Lys Gln Asn Asp Ser Val 35 40 45

				50					55					60
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Thr	His	Ile	Thr	Asn 80	Glu	Ser	Phe	Gln	Gly 85	Leu	Gln	Asn	Leu	Thr 90
Lys	Ile	Asn	Leu	Asn 95	His	Asn	Pro	Asn	Val 100	Gln	His	Gln	Asn	Gly 105
Asn	Pro	Gly	Ile	Gln 110	Ser	Asn	Gly	Leu	Asn 115	Ile	Thr	Asp	Gly	Ala 120
Phe	Leu	Asn	Leu	Lys 125	Asn	Leu	Arg	Glu	Leu 130	Leu	Leu	Glu	Asp	Asn 135
Gln	Leu	Pro	Gln	Ile 140	Pro	Ser	Gly	Leu	Pro 145	Glu	Ser	Leu	Thr	Glu 150
Leu	Ser	Leu	Ile	Gln 155	Asn	Asn	Ile	Tyr	Asn 160	Ile	Thr	Lys	Glu	Gly 165
Ile	Ser	Arg	Leu	Ile 170	Asn	Leu	Lys	Asn	Leu 175	Tyr	Leu	Ala	Trp	Asn 180
Суз	Tyr	Phe	Asn	Lys 185	Val	Cys	Glu	Lys	Thr 190	Asn	Ile	Glu	Asp	Gly 195
Val	Phe	Glu	Thr	Leu 200	Thr	Asn	Leu	Glu	Leu 205	Leu	Ser	Leu	Ser	Phe 210
Asn	Ser	Leu	Ser	His 215	Val	Pro	Pro	Lys	Leu 220	Pro	Ser	Ser	Leu	Arg 225
Lys	Leu	Phe	Leu	Ser 230	Asn	Thr	Gln	Ile	Lys 235	Tyr	Ile	Ser	Glu	Glu 240
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Lys	Ile	Asn	Ala	Ala 305	Trp	Phe	Lys	Asn	Met 310	Pro	His	Leu	Lys	Val 315
Leu	Asp	Leu	Glu	Phe 320	Asn	Tyr	Leu	Val	Gly 325	Glu	Ile	Val	Ser	Gl _y 330
Ala	Phe	Leu	Thr	Met	Leu	Pro	Arg	Leu	Glu 340		Leu	Asp	Leu	Ser 345

Phe Asn Tyr Ile Lys Gly Ser Tyr Pro Gln His Ile Asn Ile Ser Arg Asn Phe Ser Lys Leu Leu Ser Leu Arg Ala Leu His Leu Arg Gly Tyr Val Phe Gln Glu Leu Arg Glu Asp Asp Phe Gln Pro Leu Met Gln Leu Pro Asn Leu Ser Thr Ile Asn Leu Gly Ile Asn Phe 395 Ile Lys Gln Ile Asp Phe Lys Leu Phe Gln Asn Phe Ser Asn Leu Glu Ile Ile Tyr Leu Ser Glu Asn Arg Ile Ser Pro Leu Val Lys 435 Asp Thr Arg Gln Ser Tyr Ala Asn Ser Ser Ser Phe Gln Arg His Ile Arg Lys Arg Arg Ser Thr Asp Phe Glu Phe Asp Pro His Ser 455 Asn Phe Tyr His Phe Thr Arg Pro Leu Ile Lys Pro Gln Cys Ala Ala Tyr Gly Lys Ala Leu Asp Leu Ser Leu Asn Ser Ile Phe Phe 485 Ile Gly Pro Asn Gln Phe Glu Asn Leu Pro Asp Ile Ala Cys Leu Asn Leu Ser Ala Asn Ser Asn Ala Gln Val Leu Ser Gly Thr Glu 515 Phe Ser Ala Ile Pro His Val Lys Tyr Leu Asp Leu Thr Asn Asn 535 Arg Leu Asp Phe Asp Asn Ala Ser Ala Leu Thr Glu Leu Ser Asp 545 Leu Glu Val Leu Asp Leu Ser Tyr Asn Ser His Tyr Phe Arg Ile Ala Gly Val Thr His His Leu Glu Phe Ile Gln Asn Phe Thr Asn 575 Leu Lys Val Leu Asn Leu Ser His Asn Asn Ile Tyr Thr Leu Thr 595 Asp Lys Tyr Asn Leu Glu Ser Lys Ser Leu Val Glu Leu Val Phe Ser Gly Asn Arg Leu Asp Ile Leu Trp Asn Asp Asp Asn Arg Tyr Ile Ser Ile Phe Lys Gly Leu Lys Asn Leu Thr Arg Leu Asp

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Leu	Ser	Leu	Asn	Arg 650	Leu	Lys	His	Ile	Pro 655	Asn	Glu	Ala	Phe	Leu 660
Asn	Leu	Pro	Ala	Ser 665	Leu	Thr	Glu	Leu	His 670	Ile	Asn	Asp	Asn	Met 675
Leu	Lys	Phe	Phe	Asn 680	Trp	Thr	Leu	Leu	Gln 685	Gln	Phe	Pro	Arg	Leu 690
Glu	Leu	Leu	Asp	Leu 695	Arg	Gly	Asn	Lys	Leu 700	Leu	Phe	Leu	Thr	Asp 705
Ser	Leu	Ser	Asp	Phe 710	Thr	Ser	Ser	Leu	Arg 715	Thr	Leu	Leu	Leu	Ser 720
His	Asn	Arg	Ile	Ser 725	His	Leu	Pro	Ser	Gly 730	Phe	Leu	Ser	Glu	Val 735
Ser	Ser	Leu	Lys	His 740	Leu	Asp	Leu	Ser	Ser 745	Asn	Leu	Leu	Lys	Thr 750
Ile	Asn	Lys	Ser	Ala 755	Leu	Glu	Thr	Lys	Thr 760	Thr	Thr	Lys	Leu	Ser 765
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Leu Thr Lys Lys Tyr Ala Lys Ser Trp Asn Phe Lys Thr Ala Phe
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Ile Phe Ile Leu Leu Glu Pro Val Leu Gln His Ser Gln Tyr Leu
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Asp Asn Pro Lys Ala Glu Gly Leu Phe Trp Gln Thr Leu Arg Asn
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<213> Homo sapiens

<400> 506

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Cys Ala Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val
Gln Arg Val Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg
Ala Cys Ser Thr Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg
Ser Pro Gly Leu Ala Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro
Gly Trp Lys Arg Thr Ser Gly Leu Pro Gly Ala Cys Gly Ala Ala
Ile Cys Gln Pro Pro Cys Arg Asn Gly Gly Ser Cys Val Gln Pro
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Gly Arg Cys Arg Cys Pro Ala Gly Trp Arg Gly Asp Thr Cys Gln
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Ser Asp Val Asp Glu Cys Ser Ala Arg Arg Gly Gly Cys Pro Gln
Arg Cys Ile Asn Thr Ala Gly Ser Tyr Trp Cys Gln Cys Trp Glu
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Gly Pro Pro Arg Val Ala Pro Asn Pro Thr Gly Val Asp Ser Ala
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Glu Glu Lys Leu Gln Leu Val Leu Ala Pro Leu His Ser Leu Ala
                215
Ser Gln Ala Leu Glu His Gly Leu Pro Asp Pro Gly Ser Leu Leu
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<211> 1700

<212> DNA

<213> Homo sapiens

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<211> 273

<212> PRT

<213> Homo sapiens

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35 40 45

Gln Arg Val Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg
50 55 60

Ala Cys Ser Thr Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg
65 70 75

Ser Pro Gly Leu Ala Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro 80 85 90

Gly Trp Lys Arg Thr Ser Gly Leu Pro Gly Ala Cys Gly Ala Ala 95 100 105

Ile Cys Gln Pro Pro Cys Arg Asn Gly Gly Ser Cys Val Gln Pro 110 115 120

Gly Arg Cys Arg Cys Pro Ala Gly Trp Arg Gly Asp Thr Cys Gln 125 130 135

Ser Asp Val Asp Glu Cys Ser Ala Arg Arg Gly Gly Cys Pro Gln 140 145 150

Arg Cys Ile Asn Thr Ala Gly Ser Tyr Trp Cys Gln Cys Trp Glu 155 160 165

Gly His Ser Leu Ser Ala Asp Gly Thr Leu Cys Val Pro Lys Gly 170 175 180

Gly Pro Pro Arg Val Ala Pro Asn Pro Thr Gly Val Asp Ser Ala 185 190 195

Met Lys Glu Glu Val Gln Arg Leu Gln Ser Arg Val Asp Leu Leu 200 205 210

Glu Glu Lys Leu Gln Leu Val Leu Ala Pro Leu His Ser Leu Ala 225

Ser Gln Ala Leu Glu His Gly Leu Pro Asp Pro Gly Ser Leu Leu 240

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Cys Ala Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val
35 40 45

Gln Arg Val Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg
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Ala Cys Ser Thr Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg
65 70 75

Ser Pro Gly Leu Ala Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro 80 85 90

Gly Trp Lys Arg Thr Ser Gly Leu Pro Gly Ala Cys Gly Ala Ala 95 100 105

Ile Cys Gln Pro Pro Cys Arg Asn Gly Gly Ser Cys Val Gln Pro
110 115 120

Gly Arg Cys Arg Cys Pro Ala Gly Trp Arg Gly Asp Thr Cys Gln 125 130 135

Ser Asp Val Asp Glu Cys Ser Ala Arg Arg Gly Gly Cys Pro Gln

145 150 140 Arg Cys Val Asn Thr Ala Gly Ser Tyr Trp Cys Gln Cys Trp Glu 155 Gly His Ser Leu Ser Ala Asp Gly Thr Leu Cys Val Pro Lys Gly 170 Gly Pro Pro Arg Val Ala Pro Asn Pro Thr Gly Val Asp Ser Ala 185 Met Lys Glu Glu Val Gln Arg Leu Gln Ser Arg Val Asp Leu Leu 200 Glu Glu Lys Leu Gln Leu Val Leu Ala Pro Leu His Ser Leu Ala Ser Gln Ala Leu Glu His Gly Leu Pro Asp Pro Gly Ser Leu Leu 230 Val His Ser Phe Gln Gln Leu Gly Arg Ile Asp Ser Leu Ser Glu Gln Ile Ser Phe Leu Glu Glu Gln Leu Gly Ser Cys Ser Cys Lys 270 Lys Asp Ser <210> 511 <211> 21 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 511 tggagcagca atatgccagc c 21 <210> 512 <211> 22 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 512 ttttccactc ctgtcgggtt gg 22 <210> 513 <211> 46 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe

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- <212> PRT
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- Lys Leu Pro Gly Arg Asn Thr Phe Cys Cys Asp Gly Arg Val Met 20 25 30
- Met Ala Arg Gln Lys Gly Ile Phe Tyr Leu Thr Leu Phe Leu Ile 35 40 45
- Leu Gly Thr Cys Thr Leu Phe Phe Ala Phe Glu Cys Arg Tyr Leu
 50 55 60
- Ala Val Gln Leu Ser Pro Ala Ile Pro Val Phe Ala Ala Met Leu 65 70 75
- Phe Leu Phe Ser Met Ala Thr Leu Leu Arg Thr Ser Phe Ser Asp 80 85 90
- Pro Gly Val Ile Pro Arg Ala Leu Pro Asp Glu Ala Ala Phe Ile 95 100 105
- Glu Met Glu Ile Glu Ala Thr Asn Gly Ala Val Pro Gln Gly Gln 110 115 120
- Arg Pro Pro Pro Arg Ile Lys Asn Phe Gln Ile Asn Asn Gln Ile
- Val Lys Leu Lys Tyr Cys Tyr Thr Cys Lys Ile Phe Arg Pro Pro 140 145 150
- Arg Ala Ser His Cys Ser Ile Cys Asp Asn Cys Val Glu Arg Phe 155 160 165
- Asp His His Cys Pro Trp Val Gly Asn Cys Val Gly Lys Arg Asn 170 175 180
- Tyr Arg Tyr Phe Tyr Leu Phe Ile Leu Ser Leu Ser Leu Leu Thr 185 190 195
- Ile Tyr Val Phe Ala Phe Asn Ile Val Tyr Val Ala Leu Lys Ser 200 205 210
- Leu Lys Ile Gly Phe Leu Glu Thr Leu Lys Glu Thr Pro Gly Thr 215 220 225
- Val Leu Glu Val Leu Ile Cys Phe Phe Thr Leu Trp Ser Val Val

230 235 240

Gly Leu Thr Gly Phe His Thr Phe Leu Val Ala Leu Asn Gln Thr 245 250 255

Thr Asn Glu Asp Ile Lys Gly Ser Trp Thr Gly Lys Asn Arg Val 260 265 270

Gln Asn Pro Tyr Ser His Gly Asn Ile Val Lys Asn Cys Cys Glu 275 280 285

Val Leu Cys Gly Pro Leu Pro Pro Ser Val Leu Asp Arg Arg Gly 290 295 300

Ile Leu Pro Leu Glu Glu Ser Gly Ser Arg Pro Pro Ser Thr Gln 305 310 315

Glu Thr Ser Ser Ser Leu Leu Pro Gln Ser Pro Ala Pro Thr Glu 320 325 330

His Leu Asn Ser Asn Glu Met Pro Glu Asp Ser Ser Thr Pro Glu 335 340 345

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<211> 255

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<213> Homo sapiens

<220>

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<223> unknown base

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<211> 344

<212> PRT

<213> Homo sapiens

<400> 523

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Val Arg Ser Gly Asp Ala Thr Phe Pro Lys Ala Met Asp Asn Val 35 40 45

Thr Val Arg Gln Gly Glu Ser Ala Thr Leu Arg Cys Thr Ile Asp
50 55 60

Asn Arg Val Thr Arg Val Ala Trp Leu Asn Arg Ser Thr Ile Leu 65 70 75

Tyr Ala Gly Asn Asp Lys Trp Cys Leu Asp Pro Arg Val Val Leu 80 85 90

Leu Ser Asn Thr Gln Thr Gln Tyr Ser Ile Glu Ile Gln Asn Val $95 \hspace{1.5cm} 100 \hspace{1.5cm} 105$

Asp Val Tyr Asp Glu Gly Pro Tyr Thr Cys Ser Val Gln Thr Asp 110 115 120

Asn His Pro Lys Thr Ser Arg Val His Leu Ile Val Gln Val Ser 125 130 135

Pro Lys Ile Val Glu Ile Ser Ser Asp Ile Ser Ile Asn Glu Gly 140 145 150

Asn Asn Ile Ser Leu Thr Cys Ile Ala Thr Gly Arg Pro Glu Pro 155 160 165

Thr Val Thr Trp Arg His Ile Ser Pro Lys Ala Val Gly Phe Val 170 175 180

Ser Glu Asp Glu Tyr Leu Glu Ile Gln Gly Ile Thr Arg Glu Gln 185 190 195

Ser Gly Asp Tyr Glu Cys Ser Ala Ser Asn Asp Val Ala Ala Pro 200 205 210

Val Val Arg Arg Val Lys Val Thr Val Asn Tyr Pro Pro Tyr Ile 215 220 225

Ser Glu Ala Lys Gly Thr Gly Val Pro Val Gly Gln Lys Gly Thr

235 240 230 Leu Gln Cys Glu Ala Ser Ala Val Pro Ser Ala Glu Phe Gln Trp Tyr Lys Asp Asp Lys Arg Leu Ile Glu Gly Lys Lys Gly Val Lys Val Glu Asn Arg Pro Phe Leu Ser Lys Leu Ile Phe Phe Asn Val 275 Ser Glu His Asp Tyr Gly Asn Tyr Thr Cys Val Ala Ser Asn Lys 300 Leu Gly His Thr Asn Ala Ser Ile Met Leu Phe Gly Pro Gly Ala 305 310 Val Ser Glu Val Ser Asn Gly Thr Ser Arg Arg Ala Gly Cys Val 330 Trp Leu Leu Pro Leu Leu Val Leu His Leu Leu Leu Lys Phe 335 <210> 524

<211> 503

<212> DNA

<213> Homo sapiens

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<210> 525

<211> 2602

<212> DNA

<213> Homo sapiens

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<210> 526

cc 2602

<211> 736

<212> PRT

<213> Homo sapiens

<400> 526

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Phe Gln Lys Gly Thr Arg Gln Leu Leu Gly Ser Arg Thr Gln Leu 20 25 30

Glu Leu Val Leu Ala Gly Ala Ser Leu Leu Leu Ala Ala Leu Leu Leu Gly Cys Leu Val Ala Leu Gly Val Gln Tyr His Arg Asp Pro Ser His Ser Thr Cys Leu Thr Glu Ala Cys Ile Arg Val Ala Gly Lys Ile Leu Glu Ser Leu Asp Arg Gly Val Ser Pro Cys Glu Asp Phe Tyr Gln Phe Ser Cys Gly Gly Trp Ile Arg Arg Asn Pro Leu Pro Asp Gly Arg Ser Arg Trp Asn Thr Phe Asn Ser Leu Trp Asp 115 Gln Asn Gln Ala Ile Leu Lys His Leu Leu Glu Asn Thr Thr Phe Asn Ser Ser Ser Glu Ala Glu Gln Lys Thr Gln Arg Phe Tyr Leu Ser Cys Leu Gln Val Glu Arg Ile Glu Glu Leu Gly Ala Gln Pro 155 Leu Arg Asp Leu Ile Glu Lys Ile Gly Gly Trp Asn Ile Thr Gly 170 Pro Trp Asp Gln Asp Asn Phe Met Glu Val Leu Lys Ala Val Ala Gly Thr Tyr Arg Ala Thr Pro Phe Phe Thr Val Tyr Ile Ser Ala 205 Asp Ser Lys Ser Ser Asn Ser Asn Val Ile Gln Val Asp Gln Ser 215 Gly Leu Phe Leu Pro Ser Arg Asp Tyr Tyr Leu Asn Arg Thr Ala 230 Asn Glu Lys Val Leu Thr Ala Tyr Leu Asp Tyr Met Glu Glu Leu Gly Met Leu Leu Gly Gly Arg Pro Thr Ser Thr Arg Glu Gln Met 265 Gin Gln Val Leu Glu Leu Glu Ile Gln Leu Ala Asn Ile Thr Val Pro Gln Asp Gln Arg Asp Glu Glu Lys Ile Tyr His Lys Met 290 Ser Ile Ser Glu Leu Gln Ala Leu Ala Pro Ser Met Asp Trp Leu Glu Phe Leu Ser Phe Leu Leu Ser Pro Leu Glu Leu Ser Asp Ser

			320					325					330
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Glu Leu	Ile	Asn	Arg 350	Thr	Glu	Pro	Ser	Ile 355	Leu	Asn	Asn	Tyr	Leu 360
Ile Trp	Asn	Leu	Val 365	Gln	Lys	Thr	Thr	Ser 370	Ser	Leu	Asp	Arg	Arg 375
Phe Glu	Ser	Ala	Gln 380	Glu	Lys	Leu	Leu	Glu 385	Thr	Leu	Tyr	Gly	Thr 390
Lys Lys	Ser	Cys	Val 395	Pro	Arg	Trp	Gln	Thr 400	Cys	Ile	Ser	Asn	Thr 405
Asp Asp	Ala	Leu	Gly 410	Phe	Ala	Leu	Gly	Ser 415	Leu	Phe	Val	Lys	Ala 420
Thr Phe	Asp	Arg	Gln 425	Ser	Lys	Glu	Ile	Ala 430	Glu	Gly	Met	Ile	Ser 435
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Ile Tyr	Asp	Met	Ile 470	Gly	Phe	Pro	Asp	Phe 475	Ile	Leu	Glu	Pro	Lys 480
Glu Leu	Asp	Asp	Val 485	Tyr	Asp	Gly	Tyr	Glu 490	Ile	Ser	Glu	Asp	Ser 495
Phe Phe	Gln	Asn	Met 500	Leu	Asn	Leu	Tyr	Asn 505	Phe	Ser	Ala	Lys	Val 510
Met Ala	Asp	Gln	Leu 515	Arg	Lys	Pro	Pro	Ser 520	Arg	Asp	Gln	Trp	Ser 525
Met Thr	Pro	Gln	Thr 530	Val	Asn	Ala	Tyr	Tyr 535	Leu	Pro	Thr	Lys	Asn 540
Glu Ile	val	Phe	Pro 545	Ala	Gly	Ile	Leu	Gln 550	Ala	Pro	Phe	Tyr	Ala 555
Arg Asr	His	Pro	Lys 560	Ala	Leu	Asn	Phe	Gly 565	Gly	Ile	Gly	Val	Val 570
Met Gly	His	Glu	Leu 575	Thr	His	Ala	Phe	Asp 580	Asp	Gln	Gly	Arg	Glu 585
Tyr Asp	Lys	Glu	Gly 590	Asn	Leu	Arg	Pro	Trp 595	Trp	Gln	Asn	Glu	Ser 600
Leu Ala	ı Ala	Phe	Arg 605		His	Thr	Ala	Cys 610		Glu	Glu	Gln	Tyr 615

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Asn Ala Tyr Lys Ala Trp Leu Arg Lys His Gly Glu Glu Gln Gln
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Leu Pro Ala Val Gly Leu Thr Asn His Gln Leu Phe Phe Val Gly
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Phe Ala Gln Val Trp Cys Ser Val Arg Thr Pro Glu Ser Ser His
                                    685
                680
Glu Gly Leu Val Thr Asp Pro His Ser Pro Ala Arg Phe Arg Val
Leu Gly Thr Leu Ser Asn Ser Arg Asp Phe Leu Arg His Phe Gly
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Cys Pro Val Gly Ser Pro Met Asn Pro Gly Gln Leu Cys Glu Val
Trp
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<211> 4308

<212> DNA

<213> Homo sapiens

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<222> 1478, 3978, 4057-4058, 4070

<223> unknown base

<400> 527

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388

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cgttcagtgt cgatgggttc atggacctag ataggctgat aacaaagctc 1200
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<211> 1380

<212> DNA

<213> Homo sapiens

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 cggtccgcac accagagagc tctcacgagg ggctggtgac cgacccccac 500
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<210> 531
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<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe
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cctcccagcc gagaccagtg g 21
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<210> 559
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<211> 352

<212> PRT

<213> Homo Sapien

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Pro Ala Gly Gln Ser Val Asp Phe Pro Trp Ala Ala Val Asp Asn 35 40 45

Met Met Val Arg Lys Gly Asp Thr Ala Val Leu Arg Cys Tyr Leu 50 55 60

Glu Asp Gly Ala Ser Lys Gly Ala Trp Leu Asn Arg Ser Ser Ile
65 70 75

Ile Phe Ala Gly Gly Asp Lys Trp Ser Val Asp Pro Arg Val Ser 80 85 90

Ile Ser Thr Leu Asn Lys Arg Asp Tyr Ser Leu Gln Ile Gln Asn 95 100 105

Val Asp Val Thr Asp Asp Gly Pro Tyr Thr Cys Ser Val Gln Thr 110 115 120

Gln His Thr Pro Arg Thr Met Gln Val His Leu Thr Val Gln Val 125 130 135

Pro Pro Lys Ile Tyr Asp Ile Ser Asn Asp Met Thr Val Asn Glu 140 145 150

Gly Thr Asn Val Thr Leu Thr Cys Leu Ala Thr Gly Lys Pro Glu 155 160 165

Pro Ser Ile Ser Trp Arg His Ile Ser Pro Ser Ala Lys Pro Phe 170 175 180

Glu Asn Gly Gln Tyr Leu Asp Ile Tyr Gly Ile Thr Arg Asp Gln 185 190 195

Ala Gly Glu Tyr Glu Cys Ser Ala Glu Asn Ala Val Ser Phe Pro 200 205 210

Asp Val Arg Lys Val Lys Val Val Val Asn Phe Ala Pro Thr Ile 215 220 225

Gln Glu Ile Lys Ser Gly Thr Val Thr Pro Gly Arg Ser Gly Leu

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<210> 613

<211> 1797

<212> DNA

<213> Homo Sapien

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<211> 520

<212> PRT

<213> Homo Sapien

<400> 614

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325 330 320 Gly Arg Ala Gly Leu Pro Gly Ser Pro Gly Ser Pro Gly Ala Thr Gly Leu Lys Gly Ser Lys Gly Asp Thr Gly Leu Gln Gly Gln Gln 360 350 Gly Arg Lys Gly Glu Ser Gly Val Pro Gly Pro Ala Gly Val Lys Gly Glu Gln Gly Ser Pro Gly Leu Ala Gly Pro Lys Gly Ala Pro 390 Gly Gln Ala Gly Gln Lys Gly Asp Gln Gly Val Lys Gly Ser Ser Gly Glu Gln Gly Val Lys Gly Glu Lys Gly Glu Arg Gly Glu Asn 415 410 Ser Val Ser Val Arg Ile Val Gly Ser Ser Asn Arg Gly Arg Ala 430 Glu Val Tyr Tyr Ser Gly Thr Trp Gly Thr Ile Cys Asp Asp Glu 450 440 Trp Gln Asn Ser Asp Ala Ile Val Phe Cys Arg Met Leu Gly Tyr 460 455 Ser Lys Gly Arg Ala Leu Tyr Lys Val Gly Ala Gly Thr Gly Gln 470 Ile Trp Leu Asp Asn Val Gln Cys Arg Gly Thr Glu Ser Thr Leu 485 Trp Ser Cys Thr Lys Asn Ser Trp Gly His His Asp Cys Ser His 510 505 500 Glu Glu Asp Ala Gly Val Glu Cys Ser Val 515 <210> 615 <211> 647

<212> DNA

<213> Homo Sapien

<400> 615

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<211> 98

<212> PRT

<213> Homo Sapien

<400> 616

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20 25 30

Lys Ile Leu Lys Asp His Asn Cys His Asn Leu Pro Glu Gly Val
35 40 45

Ala Asp Leu Thr Gln Ile Asp Val Asn Val Gln Asp His Phe Trp 50 55 60

Asp Gly Lys Gly Cys Glu Met Ile Cys Tyr Cys Asn Phe Ser Glu
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Leu Leu Cys Cys Pro Lys Asp Val Phe Phe Gly Pro Lys Ile Ser 80 85 90

Phe Val Ile Pro Cys Asn Asn Gln 95

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<211> 2558

<212> DNA

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<212> PRT

<213> Homo Sapien

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Gly Phe Phe Leu Leu Gly Phe Leu Phe Gly Trp Phe Ile Lys Ser 35 40 45

Ser Asn Glu Ala Thr Asn Ile Thr Pro Lys His Asn Met Lys Ala 50 55 60

Phe Leu Asp Glu Leu Lys Ala Glu Asn Ile Lys Lys Phe Leu His
65 70 75

Asn Phe Thr Gln Ile Pro His Leu Ala Gly Thr Glu Gln Asn Phe $80 \\ \hspace{1.5cm} 85 \\ \hspace{1.5cm} 90$

Gln Leu Ala Lys Gln Ile Gln Ser Gln Trp Lys Glu Phe Gly Leu Asp Ser Val Glu Leu Ala His Tyr Asp Val Leu Leu Ser Tyr Pro 120 110 Asn Lys Thr His Pro Asn Tyr Ile Ser Ile Ile Asn Glu Asp Gly 125 Asn Glu Ile Phe Asn Thr Ser Leu Phe Glu Pro Pro Pro Pro Gly 150 Tyr Glu Asn Val Ser Asp Ile Val Pro Pro Phe Ser Ala Phe Ser Pro Gln Gly Met Pro Glu Gly Asp Leu Val Tyr Val Asn Tyr Ala 170 Arg Thr Glu Asp Phe Phe Lys Leu Glu Arg Asp Met Lys Ile Asn 185 Cys Ser Gly Lys Ile Val Ile Ala Arg Tyr Gly Lys Val Phe Arg 205 200 Gly Asn Lys Val Lys Asn Ala Gln Leu Ala Gly Ala Lys Gly Val Ile Leu Tyr Ser Asp Pro Ala Asp Tyr Phe Ala Pro Gly Val Lys 240 230 Ser Tyr Pro Asp Gly Trp Asn Leu Pro Gly Gly Gly Val Gln Arg Gly Asn Ile Leu Asn Leu Asn Gly Ala Gly Asp Pro Leu Thr Pro 260 Gly Tyr Pro Ala Asn Glu Tyr Ala Tyr Arg Arg Gly Ile Ala Glu Ala Val Gly Leu Pro Ser Ile Pro Val His Pro Ile Gly Tyr Tyr 290 Asp Ala Gln Lys Leu Leu Glu Lys Met Gly Gly Ser Ala Pro Pro Asp Ser Ser Trp Arg Gly Ser Leu Lys Val Pro Tyr Asn Val Gly Pro Gly Phe Thr Gly Asn Phe Ser Thr Gln Lys Val Lys Met His 335 Ile His Ser Thr Asn Glu Val Thr Arg Ile Tyr Asn Val Ile Gly 350 Thr Leu Arg Gly Ala Val Glu Pro Asp Arg Tyr Val Ile Leu Gly 365 Gly His Arg Asp Ser Trp Val Phe Gly Gly Ile Asp Pro Gln Ser

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Lys	Lys	Glu	Gly	Trp 410	Arg	Pro	Arg	Arg	Thr 415	Ile	Leu	Phe	Ala	Ser 420
Trp	Asp	Ala	Glu	Glu 425	Phe	Gly	Leu	Leu	Gly 430	Ser	Thr	Glu	Trp	Ala 435
Glu	Glu	Asn	Ser	Arg 440	Leu	Leu	Gln	Glu	Arg 445	Gly	Val	Ala	Tyr	Ile 450
Asn	Ala	Asp	Ser	Ser 455	Ile	Glu	Gly	Asn	Tyr 460	Thr	Leu	Arg	Val	Asp 465
Cys	Thr	Pro	Leu	Met 470	Tyr	Ser	Leu	Val	His 475	Asn	Leu	Thr	Lys	Glu 480
Leu	Lys	Ser	Pro	Asp 485	Glu	Gly	Phe	Glu	Gly 490	Lys	Ser	Leu	Tyr	Glu 495
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Arg	Ile	Ser	Lys	Leu 515	Gly	Ser	Gly	Asn	Asp 520	Phe	Glu	Val	Phe	Phe 525
Gln	Arg	Leu	Gly	Ile 530	Ala	Ser	Gly	Arg	Ala 535	Arg	Tyr	Thr	Lys	Asn 540
Trp	Glu	Thr	Asn	Lys 545	Phe	Ser	Gly	Tyr	Pro 550	Leu	Tyr	His	Ser	Val 555
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Lys	Tyr	His	Leu	Thr 575	Val	Ala	Gln	Val	Arg 580	Gly	Gly	Met	Val	Phe 585
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Phe	Ser	Glu	Arg	Leu 650	Gln	Asp	Phe	Asp	Lys 655		Asn	Pro	Ile	Val 660
Leu	Arg	Met	Met	Asn 665		Gln	Leu	Met	Phe 670		Glu	Arg	Ala	Phe 675

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Ile Tyr Ala Pro Ser Ser His Asn Lys Tyr Ala Gly Glu Ser Phe
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Pro Gly Ile Tyr Asp Ala Leu Phe Asp Ile Glu Ser Lys Val Asp
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